

**From:** [Fischbach, Tracy](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Arctic 1002 Regulation Review - Invitation to collaborate  
**Date:** Tuesday, November 14, 2017 10:55:40 PM

---

No. They are in the list of resources to look at, but not in the outline yet. They will be tomorrow. Do you have anything regarding effects of oil & gas on the PCH? Arctic Refuge is down to one bio, so we are really short on expertise.

Thanks! -T

Tracyann S Fischbach  
Natural Resources Planner  
National Wildlife Refuge System - Region 7  
Division of Natural Resources & Conservation Planning  
(907) 786-3369

Hours: Mon - Thurs 9:15 am to 3:15 pm  
"Getting right down and smelling the fresh soil is good for any one." - from the 1913  
Handbook for Girl Scouts by W. J. Hoxie

**Need access to Refuge Documents?**  
[Online Document Database \(ServCat\)](#)  
***Need Refuge land status info for Alaska?***  
[FWS Region 7 Land Mapper \(FWS version\)](#)  
[FWS Region 7 Land Mapper \(Public version\)](#)  
[Region 7 GeoPDF Map Portal](#)

On Tue, Nov 14, 2017 at 3:32 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Tracy,

How do you want me to share what I drafted on climate change? I will attach it as a word doc here, as I don't see where it fits in the current document on google drive.

I think you are missing caribou in the document? Is that intentional?

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

---

**From:** Tracy Fischbach (via Google Drive) [mailto:[drive-shares-noreply@google.com](mailto:drive-shares-noreply@google.com)]

**Sent:** Tuesday, November 14, 2017 11:30 AM

**To:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)

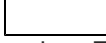
**Cc:** [margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov); [Jenifer\\_Kohout@fws.gov](mailto:Jenifer_Kohout@fws.gov); [ryan\\_r\\_wilson@fws.gov](mailto:ryan_r_wilson@fws.gov); [christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)

**Subject:** Arctic 1002 Regulation Review - Invitation to collaborate

[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov) has invited you to **contribute to** the following shared folder:



### [Arctic 1002 Regulation Review](#)

 Hi all, This folder is a gather place for resources related to the 1002 Regulation review. The current EA we are working on lives in the "EA November 2017 version" folder. Thank you for all you are doing to help move this document forward. We really appreciate it! -Tracy

[Open](#)

Google Drive: Have all your files within reach from any device.

Google Inc. 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA



**From:** [Wendy Loya](#)  
**To:** [Tracy Fischbach](#)  
**Subject:** RE: Arctic 1002 Regulation Review - Invitation to collaborate  
**Date:** Tuesday, November 14, 2017 5:32:10 PM  
**Attachments:** [Climate Change for Arctic EA wendy 1117.docx](#)

---

Hi Tracy,

How do you want me to share what I drafted on climate change? I will attach it as a word doc here, as I don't see where it fits in the current document on google drive.

I think you are missing caribou in the document? Is that intentional?

Wendy

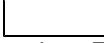
Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Tracy Fischbach (via Google Drive) [mailto:[drive-shares-noreply@google.com](mailto:drive-shares-noreply@google.com)]  
**Sent:** Tuesday, November 14, 2017 11:30 AM  
**To:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**Cc:** [margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov); [Jenifer\\_Kohout@fws.gov](mailto:Jenifer_Kohout@fws.gov); [ryan\\_r\\_wilson@fws.gov](mailto:ryan_r_wilson@fws.gov); [christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)  
**Subject:** Arctic 1002 Regulation Review - Invitation to collaborate

[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov) has invited you to **contribute to** the following shared folder:

  
[Arctic 1002 Regulation Review](#)

 Hi all, This folder is a gather place for resources related to the 1002 Regulation review. The current EA we are working on lives in the "EA November 2017 version" folder. Thank you for all you are doing to help move this document forward. We really appreciate it! - Tracy  
[Open](#)

Google Drive: Have all your files within reach from any device.

Google Inc. 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA

0000006570

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** Caribou.docx  
**Date:** Monday, November 20, 2017 3:57:13 PM  
**Attachments:** [Caribou.docx](#)

---

Drafty section for Arctic Refuge Caribou Affected Environment

**From:** [Santos, Lynne](#)  
**Bcc:** [fw7allusers-dynamic@fws.gov](mailto:fw7allusers-dynamic@fws.gov)  
**Subject:** RDT Notes November 20, 2017 Attached are the RDT Meeting notes for the week, as reported and submitted by the Programs. Happy Thanksgiving!  
**Date:** Tuesday, November 21, 2017 1:43:20 PM  
**Attachments:** [RDT NOTES 11-20-17.docx](#)

---

**Region 7 - Alaska Budget and Administration**

**Vision:** We Give the Mission Life!

**Mission:** We strategically partner to provide efficient, effective, and professional support

*Lynne Santos  
FOIA Officer & Administrative Specialist  
1011 E. Tudor Road MS 374  
Anchorage, Alaska 99503  
Tel 907-786-3544  
Fax 907-786-3306*

*“Don't find fault, find a remedy; anybody can complain” - Henry Ford  
“Common sense is genius dressed in its working clothes” –Ralph Waldo Emerson*



**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** Fwd: Technology and Innovation for Environmental Monitoring on Alaska's North Slope.pdf  
**Date:** Tuesday, November 28, 2017 6:19:29 PM  
**Attachments:** [ATT00001.htm](#)  
[SPE-184471-MS Technology and Innovation for Environmental Monitoring on Alaska's North Slope.pdf](#)

---

Bears and Bous monitoring by Exxon. Remote sensing for bous is interesting, have heard about attempts but this shows some investment in continued method refinement.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

Begin forwarded message:

**From:** "Moore, John D" <[john.d.moore@exxonmobil.com](mailto:john.d.moore@exxonmobil.com)>  
**To:** "[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)" <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Subject:** Technology and Innovation for Environmental Monitoring on Alaska's North Slope.pdf

Wendy,

Nice meeting you today!

As discussed please see attached a non-technical paper you might find of interest. Also, note that Kim Klein and Chris Putnam are our key points of contact at USFWS.

If you would like to speak with our environmental team do let me know.

Best,

John

**From:** [Wendy Loya](#)  
**To:** [Ryan Wilson](#); [Tim Fullman](#); [Parrett, Lincoln S \(DFG\)](#)  
**Subject:** FW: Technology and Innovation for Environmental Monitoring on Alaska's North Slope.pdf  
**Date:** Friday, December 1, 2017 12:53:32 PM  
**Attachments:** [ATT00001.htm](#)  
[SPE-184471-MS Technology and Innovation for Environmental Monitoring on Alaska's North Slope.pdf](#)

---

See attached for RS of caribou and pb

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Frost, Eileen](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Request for Meeting re NSSI & 1002 Science Needs  
**Date:** Friday, December 15, 2017 4:16:14 PM

---

Dear Ms. Loya,  
Thanks so much for your email. Since most people were available Monday at 1:00pm, that's what we calendared, but I spoke with Paul Leonard and he has agreed to participate on your behalf. Thanks again! ~Eileen

On Fri, Dec 15, 2017 at 2:10 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Eileen,  
I am traveling back from the east to Anchorage on Monday from 8:20 am until midnight. I could do the Tuesday morning time slot. Unfortunately I will be in the air during the Monday time.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Dec 15, 2017, at 13:32, Frost, Eileen <[efrost@blm.gov](mailto:efrost@blm.gov)> wrote:

Greetings,

I am reaching out at the request of Ms. Mouritsen to schedule a meeting on Monday or Tuesday of next week regarding NSSI & 1002 Science Needs.

Participants include:

Karen Mouritsen  
James Kendall  
Greg Siekaniec  
Sara Longan  
Wendy Loya  
Bud Cribley

Please let me know if either of these times will work for you.

Monday, Dec. 18 - 1:00-2:00pm AKST (5:00-6:00pm Eastern)  
Tuesday, Dec. 19 - 8:00-9:00am (Noon-1:00pm Eastern)

Thank you, ~Eileen



--

Best Regards,

Eileen A. Frost

Bureau of Land Management  
State Director's Office  
[222 W. 7th Avenue, #13](#)  
[Anchorage, AK 99513](#)  
907-271-5080

--

Best Regards,

Eileen A. Frost

Bureau of Land Management  
State Director's Office  
222 W. 7th Avenue, #13  
Anchorage, AK 99513  
907-271-5080

**From:** [Selbo, Sarena](#)  
**To:** [Wendy Loya](#); [Leonard, Paul](#)  
**Subject:** Fwd: Invitation: Discussion re NSSI and 1002 Area of ANWR - Science Needs @ Mon Dec 18, 2017 1pm - 2pm (sarena\_selbo@fws.gov)  
**Date:** Friday, December 15, 2017 5:34:46 PM  
**Attachments:** [invite.ics](#)

---

----- Forwarded message -----

From: **Selbo, Sarena** <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>  
Date: Fri, Dec 15, 2017 at 3:33 PM  
Subject: Fwd: Invitation: Discussion re NSSI and 1002 Area of ANWR - Science Needs @ Mon Dec 18, 2017 1pm - 2pm ([sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov))  
To: "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>  
Cc: "Clark, Karen" <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>, Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>

I received this invite today but have zero background info other than a casual discussion with Bud Cribley about the importance of Arctic LCC and NSSI talking more. The invitees to this meeting are the agency reps on the NSSI and the Arctic LCC staff. I think to have a more meaningful conversation about science needs around permitting responsible development we need to engage the Refuge and the FES folks as well. Mary (and maybe your FBX staff) and Soch/Drew are you available Monday at 1:00? I have also left a vm with Sara Longan, the Director of NSSI to get more details. Thanks!

----- Forwarded message -----

From: **Eileen Frost** <[efrost@blm.gov](mailto:efrost@blm.gov)>  
Date: Fri, Dec 15, 2017 at 12:16 PM  
Subject: Invitation: Discussion re NSSI and 1002 Area of ANWR - Science Needs @ Mon Dec 18, 2017 1pm - 2pm ([sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov))  
To: [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov), [slongan@blm.gov](mailto:slongan@blm.gov), [mdraper@blm.gov](mailto:mdraper@blm.gov), [james.kendall@boem.gov](mailto:james.kendall@boem.gov), [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov), [kmourits@blm.gov](mailto:kmourits@blm.gov), "[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)" <[gregory\\_siekaniec@fws.gov](mailto:gregory_siekaniec@fws.gov)>, [dee.williams@boem.gov](mailto:dee.williams@boem.gov), [scohn@blm.gov](mailto:scohn@blm.gov), [adevaris@usgs.gov](mailto:adevaris@usgs.gov)

### Discussion re NSSI and 1002 Area of ANWR - Science Needs

[more details »](#)

Scheduled at the request of Ms. Mouritsen (email) 12/14 6:57pm ~E

When Mon Dec 18, 2017 1pm – 2pm Alaska Time

Where BLM-AK SD Bridgeport 1 907 271 3319, BLM-AK SD State Directors Conference Room ([map](#))

Video call 

Calendar [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)

Who

- [efrost@blm.gov](mailto:efrost@blm.gov) - organizer
- [slongan@blm.gov](mailto:slongan@blm.gov)
- [mdraper@blm.gov](mailto:mdraper@blm.gov)

- [james.kendall@boem.gov](mailto:james.kendall@boem.gov)
- [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)
- [kmourits@blm.gov](mailto:kmourits@blm.gov)
- [greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)
- [dee.williams@boem.gov](mailto:dee.williams@boem.gov)
- [scohn@blm.gov](mailto:scohn@blm.gov)
- [adevaris@usgs.gov](mailto:adevaris@usgs.gov)
- [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)

Going? [Yes](#) - [Maybe](#) - [No](#) [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov) because you are subscribed for invitations on calendar [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More](#).

--

Sarena M. Selbo  
Assistant Regional Director  
Science Applications - Alaska Region  
U.S. Fish and Wildlife Service  
1011 East Tudor Road  
Anchorage, Alaska 99503  
907-786-3380

--

Sarena M. Selbo  
Assistant Regional Director  
Science Applications - Alaska Region  
U.S. Fish and Wildlife Service  
1011 East Tudor Road  
Anchorage, Alaska 99503  
907-786-3380

**From:** [Selbo, Sarena](#)  
**To:** [Wendy Loya](#); [Leonard, Paul](#)  
**Subject:** Fwd: Invitation: Discussion re NSSI and 1002 Area of ANWR - Science Needs @ Mon Dec 18, 2017 1pm - 2pm (sarena\_selbo@fws.gov)  
**Date:** Friday, December 15, 2017 6:04:55 PM

---

FYI

----- Forwarded message -----

From: **Sarena Selbo** <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>  
Date: Fri, Dec 15, 2017 at 4:00 PM  
Subject: Re: Invitation: Discussion re NSSI and 1002 Area of ANWR - Science Needs @ Mon Dec 18, 2017 1pm - 2pm ([sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov))  
To: "Clark, Karen" <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>  
Cc: "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>

Sounds good. Thank you Karen!

On Dec 15, 2017, at 3:56 PM, Clark, Karen <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)> wrote:

Hi Sarena,

We asked Toni earlier to add Soch to the meeting invite, and we talked to Karen at BLM today. We agreed that we may not have all of the right people for this meeting on Monday, but the conversation will be helpful to determine who else should be involved.

Thanks to everyone for their involvement as we try to figure some of these things out!

Karen

Karen P. Clark  
Deputy Regional Director  
U.S. Fish & Wildlife Service- Alaska Region  
1011 E Tudor Rd, MS 374  
Anchorage, AK 99503  
[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)  
907.786.3542 office  
907.786.3493 direct  
907.786.3306 fax

On Fri, Dec 15, 2017 at 3:33 PM, Selbo, Sarena <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)> wrote:  
I received this invite today but have zero background info other than a casual discussion with Bud Cribley about the importance of Arctic LCC and NSSI

0000006579

talking more. The invitees to this meeting are the agency reps on the NSSI and the Arctic LCC staff. I think to have a more meaningful conversation about science needs around permitting responsible development we need to engage the Refuge and the FES folks as well. Mary (and maybe your FBX staff) and Soch/Drew are you available Monday at 1:00? I have also left a vm with Sara Longan, the Director of NSSI to get more details. Thanks!

----- Forwarded message -----

From: **Eileen Frost** <[efrost@blm.gov](mailto:efrost@blm.gov)>

Date: Fri, Dec 15, 2017 at 12:16 PM

Subject: Invitation: Discussion re NSSI and 1002 Area of ANWR - Science Needs @ Mon Dec 18, 2017 1pm - 2pm ([sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov))

To: [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov), [slongan@blm.gov](mailto:slongan@blm.gov), [mdraper@blm.gov](mailto:mdraper@blm.gov), [james.kendall@boem.gov](mailto:james.kendall@boem.gov), [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov), [kmourits@blm.gov](mailto:kmourits@blm.gov), ["greg\\_siekaniec@fws.gov"](mailto:greg_siekaniec@fws.gov) <[gregory\\_siekaniec@fws.gov](mailto:gregory_siekaniec@fws.gov)>, [dee.williams@boem.gov](mailto:dee.williams@boem.gov), [scohn@blm.gov](mailto:scohn@blm.gov), [adevaris@usgs.gov](mailto:adevaris@usgs.gov)

## Discussion re NSSI and 1002 Area of ANWR - Science Needs

[more details »](#)

Scheduled at the request of Ms. Mouritsen (email) 12/14 6:57pm ~E

When Mon Dec 18, 2017 1pm – 2pm Alaska Time

Where BLM-AK SD Bridgeport 1 907 271 3319, BLM-AK SD State Directors Conference Room ([map](#))

Video call **65-CIP**

Calendar [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)

Who

- [efrost@blm.gov](mailto:efrost@blm.gov) - organizer
- [slongan@blm.gov](mailto:slongan@blm.gov)
- [mdraper@blm.gov](mailto:mdraper@blm.gov)
- [james.kendall@boem.gov](mailto:james.kendall@boem.gov)
- [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)
- [kmourits@blm.gov](mailto:kmourits@blm.gov)
- [greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)
- [dee.williams@boem.gov](mailto:dee.williams@boem.gov)
- [scohn@blm.gov](mailto:scohn@blm.gov)
- [adevaris@usgs.gov](mailto:adevaris@usgs.gov)
- [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)

Going? **Yes** - **Maybe** - **No** [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov) because you are subscribed for invitations on calendar [sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More.](#)

--

Sarena M. Selbo  
Assistant Regional Director  
Science Applications - Alaska Region  
U.S. Fish and Wildlife Service  
1011 East Tudor Road  
Anchorage, Alaska 99503  
907-786-3380

--

Sarena M. Selbo  
Assistant Regional Director  
Science Applications - Alaska Region  
U.S. Fish and Wildlife Service  
1011 East Tudor Road  
Anchorage, Alaska 99503  
907-786-3380

**From:** [Cribley, Bud](#)  
**To:** [Frost, Eileen](#)  
**Cc:** [Wendy Loya](#); [Maria \(Toni\) Romero](#); [Michelle Colley](#); [Longan, Sara](#)  
**Subject:** Re: Request for Meeting re NSSI & 1002 Science Needs  
**Date:** Friday, December 15, 2017 12:11:03 PM

---

Eileen,

Monday works best for me. I would suggest inviting Sarena Selbo.

Bud

On Fri, Dec 15, 2017 at 1:32 PM, Frost, Eileen <[efrost@blm.gov](mailto:efrost@blm.gov)> wrote:

Greetings,

I am reaching out at the request of Ms. Mouritsen to schedule a meeting on Monday or Tuesday of next week regarding NSSI & 1002 Science Needs.

Participants include:

Karen Mouritsen  
James Kendall  
Greg Siekaniec  
Sara Longan  
Wendy Loya  
Bud Cribley

Please let me know if either of these times will work for you.

Monday, Dec. 18 - 1:00-2:00pm AKST (5:00-6:00pm Eastern)  
Tuesday, Dec. 19 - 8:00-9:00am (Noon-1:00pm Eastern)

Thank you, ~Eileen

--

Best Regards,

Eileen A. Frost

Bureau of Land Management  
State Director's Office  
[222 W. 7th Avenue, #13](#)  
[Anchorage, AK 99513](#)  
[907-271-5080](#)

--

**Bud C Cribley**  
**Senior Advisor for Energy with the U.S. Fish & Wildlife Service**

0000006582

Office # 202-208-4331  
Cell # 907-717-5141  
Office # MIB 3341  
email: [bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)



**From:** [Paul Leonard](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Request for Meeting re NSSI & 1002 Science Needs  
**Date:** Saturday, December 16, 2017 11:39:10 AM

---

Hey Wendy,

Sure. Seems like Sarena is scrambling as well.

We are actually leaving tomorrow around 5pm and land in Atlanta on Monday afternoon about 3pm eastern (11am Alaska). Then I have a couple hour drive. Well -- I can get Claire to drive so I can better prep for meeting :)

I also thought of the development impacts model and I'm also curious about some of the things that opportunities to get ahead of polar bear den disturbance (not really science as much as planning) and if I'd had more time I would have tried to reach out to some caribou folks to talk more specifically about Porcupine and 1002. I did get a some of Steve's thoughts though.

Talk soon. Hope you're having a great trip!

Cheers!

Paul Leonard, PhD  
Science Coordinator  
Arctic Landscape Conservation Cooperative  
101 12th Ave. Room 216  
Fairbanks, AK 99709  
(907) 456-0445

On Dec 15, 2017, at 4:10 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

My mind of course has been spinning since I saw the email! I will send you some thoughts. When do you leave Fairbanks, day time, so I have a deadline :)

Given both the challenge of the level of participants and being on the phone, at very least it will be great to have good notes if you are able to join call. Karen, Sarah, Bud and Sarena know the quantitative analyses examples from Ryans work and that we want to pick up on that.

I do hope Sarena will go since she is also able to represent refuges, but she hasn't said if she is. Bud suggested it and since she stands in for Greg on NSSI.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Dec 15, 2017, at 19:15, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:

Technically I can make this call although I will have just landed after a day of traveling.

Given the general lack of context, do you have good ideas about how I should prepare for this meeting? Based on the invite list, I assume this will be pretty high level.

Cheers,  
Paul

On Fri, Dec 15, 2017 at 2:19 PM, Wendy Loya  
<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

Begin forwarded message:

**From:** "Frost, Eileen" <[efrost@blm.gov](mailto:efrost@blm.gov)>  
**Date:** December 15, 2017 at 18:16:11 GMT-5  
**To:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Subject:** Re: Request for Meeting re NSSI & 1002 Science Needs

Dear Ms. Loya,  
Thanks so much for your email. Since most people were available Monday at 1:00pm, that's what we calendared, but I spoke with Paul Leonard and he has agreed to participate on your behalf. Thanks again!  
~Eileen

On Fri, Dec 15, 2017 at 2:10 PM, Wendy Loya  
<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Eileen,  
I am traveling back from the east to Anchorage on Monday from 8:20 am until midnight. I could do the Tuesday morning time slot. Unfortunately I will be in the air during the Monday time.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative  
(LCC)

Anchorage, Alaska

[907.786.3532](tel:907.786.3532) (office)

[907.227.2942](tel:907.227.2942) (mobile)

On Dec 15, 2017, at 13:32, Frost, Eileen  
<[efrost@blm.gov](mailto:efrost@blm.gov)> wrote:

Greetings,

I am reaching out at the request of Ms.  
Mouritsen to schedule a meeting on  
Monday or Tuesday of next week  
regarding NSSI & 1002 Science Needs.

Participants include:

Karen Mouritsen  
James Kendall  
Greg Siekaniec  
Sara Longan  
Wendy Loya  
Bud Cribley

Please let me know if either of these  
times will work for you.

Monday, Dec. 18 - 1:00-2:00pm AKST  
(5:00-6:00pm Eastern)

Tuesday, Dec. 19 - 8:00-9:00am (Noon-  
1:00pm Eastern)

Thank you, ~Eileen

--

Best Regards,

Eileen A. Frost

Bureau of Land Management  
State Director's Office  
[222 W. 7th Avenue, #13](#)  
[Anchorage, AK 99513](#)  
907-271-5080

--

Best Regards,

Eileen A. Frost

Bureau of Land Management  
State Director's Office  
[222 W. 7th Avenue, #13](#)  
[Anchorage, AK 99513](#)  
907-271-5080

--

Paul Leonard, PhD

Science Coordinator

[Arctic LCC](#)

101 12th Ave. Room 216

Fairbanks, AK 99701

(907) 456-0445

**From:** [Cribley, Bud](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: A few notes for today's meeting about 1002 Arctic Refuge  
**Date:** Monday, December 18, 2017 9:17:42 AM

---

Wendy,

thank you

bud

On Mon, Dec 18, 2017 at 7:45 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Sarena, Paul, Bud, Sara and Mark,

I am sorry I am not able to make it to the meeting today as I am traveling back to Anchorage.

The Arctic LCC has been talking with Sara and Mark at NSSI over the past several months about how we can work to support BLM, FWS, Alaska DNR, NSB and others in information needs for responsible resource development. There are working groups being formed at both NSSI and Arctic LCC that will synthesize information relevant to oil and gas leasing and development in the Arctic. For Arctic LCC this includes Cumulative Impacts Analysis and Caribou Connectivity, as well as our ongoing efforts in hydrologic and climatological monitoring research. However, I imagine that time is of the essence and that the Department of the Interior is wanting to move things along quickly.

From my limited experience observing the FWS working on the Environmental Assessment for the rule change to allow seismic in the refuge the past month, I perceive that there is a great need for rapid coordination between BLM staff to:

- 1) share the BLM's development assumptions (what leasing, seismic exploration, exploration drilling and development activities "look like") and DNR's ice road and water permitting roles;
- 2) share the Best Management Practices / Stipulations in the NPRA Integrated Activity Plan (IAP) more broadly with FWS staff to identify management and mitigation opportunities;
- 3) bring BLM, FWS and other science together to help FWS target the research and monitoring needed for the Arctic Refuge to be able to complete an EIS;
- 4) ensure meaningful engagement of communities within the Refuge and outside the Refuge that will be affected by a new management direction. The BLM Subsistence Advisory Panel and NPRA Working Groups, in addition to the Porcupine Caribou Herd Management Board, provide examples and opportunities for some aspects of this important

component.

Arctic LCC and NSSI could organize a workshop to bring people together around the topics, with both presentations and also focused working groups.

I hope there is time for this type of coordination, but at the very least, creating some shared expertise and human resources between BLM and FWS would greatly facilitate upcoming NEPA analyses.

Cheers,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

**Bud C Cribley**

**Senior Advisor for Energy with the U.S. Fish & Wildlife Service**

**Office # 202-208-4331**

**Cell # 907-717-5141**

**Office # MIB 3341**

**email: [bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)**

**From:** [Miller, Mark](#)  
**To:** [Wendy M. Loya, PhD](#)  
**Subject:** touching base  
**Date:** Monday, December 18, 2017 10:06:45 AM

---

Consult w BLM

A large rectangular area of the document is completely redacted with a solid dark gray fill. It occupies the upper half of the page content area.

Consult w BLM

A large rectangular area of the document is completely redacted with a solid dark gray fill. It occupies the lower half of the page content area.

- More information:

- <http://arcticlcc.org/>
- <https://lccnetwork.org/>

~~~~~  
**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513  
~~~~~

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*



**From:** [Miller, Mark](#)  
**To:** [Karen Mouritsen](#)  
**Bcc:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**Subject:** Fwd: A few notes for today's meeting about 1002 Arctic Refuge  
**Date:** Monday, December 18, 2017 10:10:44 AM

---

Karen - just passing along this note from Arctic LCC Coordinator Wendy Loya.

Mark

---

**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

----- Forwarded message -----

**From:** **Wendy Loya** <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Date:** Mon, Dec 18, 2017 at 3:45 AM  
**Subject:** A few notes for today's meeting about 1002 Arctic Refuge  
**To:** Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, [bud\\_cripley@fws.gov](mailto:bud_cripley@fws.gov), Sara Longan <[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>

Hi Sarena, Paul, Bud, Sara and Mark,

I am sorry I am not able to make it to the meeting today as I am traveling back to Anchorage.

The Arctic LCC has been talking with Sara and Mark at NSSI over the past several months about how we can work to support BLM, FWS, Alaska DNR, NSB and others in information needs for responsible resource development. There are working groups being formed at both NSSI and Arctic LCC that will synthesize information relevant to oil and gas leasing and development in the Arctic. For Arctic LCC this includes Cumulative Impacts Analysis and Caribou Connectivity, as well as our ongoing efforts in hydrologic and climatological monitoring research. However, I imagine that time is of the essence and that the Department of the Interior is wanting to move things along quickly.

From my limited experience observing the FWS working on the Environmental Assessment for the rule change to allow seismic in the refuge the past month, I perceive that there is a great need for rapid coordination between BLM staff to:

- 1) share the BLM's development assumptions (what leasing, seismic exploration, exploration drilling and development activities "look like") and DNR's ice road and water permitting roles;
- 2) share the Best Management Practices / Stipulations in the NPRA Integrated Activity Plan (IAP) more broadly with FWS staff to identify management and mitigation opportunities;
- 3) bring BLM, FWS and other science together to help FWS target the research and monitoring needed for the Arctic Refuge to be able to complete an EIS;
- 4) ensure meaningful engagement of communities within the Refuge and outside the Refuge that will be affected by a new management direction. The BLM Subsistence Advisory Panel and NPRA Working Groups, in addition to the Porcupine Caribou Herd Management Board, provide examples and opportunities for some aspects of this important component.

Arctic LCC and NSSI could organize a workshop to bring people together around the topics, with both presentations and also focused working groups.

I hope there is time for this type of coordination, but at the very least, creating some shared expertise and human resources between BLM and FWS would greatly facilitate upcoming NEPA analyses.

Cheers,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** [Paul Leonard](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: A few notes for today's meeting about 1002 Arctic Refuge  
**Date:** Monday, December 18, 2017 12:29:55 PM

---

Awesome! Thanks Wendy.

We just landed in ATL, hopefully we can even disembark

On Mon, Dec 18, 2017 at 10:07 AM Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hope your and Claire made it out of Alaska! Happy travels. Here is an email I sent out this morning :)

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

Begin forwarded message:

**From:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Date:** December 18, 2017 at 07:45:17 GMT-5  
**To:** Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>, Paul Leonard  
<[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, [bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov), Sara Longan  
<[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>  
**Subject:** A few notes for today's meeting about 1002 Arctic Refuge

Hi Sarena, Paul, Bud, Sara and Mark,

I am sorry I am not able to make it to the meeting today as I am traveling back to Anchorage.

The Arctic LCC has been talking with Sara and Mark at NSSI over the past several months about how we can work to support BLM, FWS, Alaska DNR, NSB and others in information needs for responsible resource development. There are working groups being formed at both NSSI and Arctic LCC that will synthesize information relevant to oil and gas leasing and development in the Arctic. For Arctic LCC this includes Cumulative Impacts Analysis and Caribou Connectivity, as well as our ongoing efforts in hydrologic and climatological monitoring research. However, I imagine that time is of the essence and that the Department of the Interior is wanting to move things along quickly.

From my limited experience observing the FWS working on the Environmental Assessment for the rule change to allow seismic in the refuge the past month, I perceive that there is a great need for rapid coordination between BLM staff to:

- 1) share the BLM's development assumptions (what leasing, seismic exploration, exploration drilling and development activities "look like") and DNR's ice road and water permitting roles;
- 2) share the Best Management Practices / Stipulations in the NPRA Integrated Activity Plan (IAP) more broadly with FWS staff to identify management and mitigation opportunities;
- 3) bring BLM, FWS and other science together to help FWS target the research and monitoring needed for the Arctic Refuge to be able to complete an EIS;
- 4) ensure meaningful engagement of communities within the Refuge and outside the Refuge that will be affected by a new management direction. The BLM Subsistence Advisory Panel and NPRA Working Groups, in addition to the Porcupine Caribou Herd Management Board, provide examples and opportunities for some aspects of this important component.

Arctic LCC and NSSI could organize a workshop to bring people together around the topics, with both presentations and also focused working groups.

I hope there is time for this type of coordination, but at the very least, creating some shared expertise and human resources between BLM and FWS would greatly facilitate upcoming NEPA analyses.

Cheers,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

Sent from Gmail Mobile

**From:** [Longan, Sara W \(DNR\)](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Sarena Selbo](#); [Paul Leonard](#); [bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov); [Mark Miller](#)  
**Subject:** Re: A few notes for today's meeting about 1002 Arctic Refuge  
**Date:** Monday, December 18, 2017 7:44:58 AM

---

Thank you for your input, Wendy. Mark and I will be sure to reach back out to you with the main outcomes from today's meeting. NSSI looks forward to our continued coordination and partnership with the Arctic LCC on 1002 issues.

Talk soon,  
Sara Longan

On Dec 18, 2017, at 3:45 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Sarena, Paul, Bud, Sara and Mark,

I am sorry I am not able to make it to the meeting today as I am traveling back to Anchorage.

The Arctic LCC has been talking with Sara and Mark at NSSI over the past several months about how we can work to support BLM, FWS, Alaska DNR, NSB and others in information needs for responsible resource development. There are working groups being formed at both NSSI and Arctic LCC that will synthesize information relevant to oil and gas leasing and development in the Arctic. For Arctic LCC this includes Cumulative Impacts Analysis and Caribou Connectivity, as well as our ongoing efforts in hydrologic and climatological monitoring research. However, I imagine that time is of the essence and that the Department of the Interior is wanting to move things along quickly.

From my limited experience observing the FWS working on the Environmental Assessment for the rule change to allow seismic in the refuge the past month, I perceive that there is a great need for rapid coordination between BLM staff to:

- 1) share the BLM's development assumptions (what leasing, seismic exploration, exploration drilling and development activities "look like") and DNR's ice road and water permitting roles;
- 2) share the Best Management Practices / Stipulations in the NPRA Integrated Activity Plan (IAP) more broadly with FWS staff to identify management and mitigation opportunities;
- 3) bring BLM, FWS and other science together to help FWS target the research and monitoring needed for the Arctic Refuge to be able to complete an EIS;
- 4) ensure meaningful engagement of communities within the Refuge and outside the Refuge that will be affected by a new management direction. The BLM Subsistence Advisory Panel and NPRA Working Groups, in addition to the Porcupine Caribou Herd Management Board, provide examples and opportunities for some aspects of this important component.

Arctic LCC and NSSI could organize a workshop to bring people together around the topics, with both presentations and also focused working groups.

I hope there is time for this type of coordination, but at the very least, creating some shared expertise and human resources between BLM and FWS would greatly facilitate upcoming NEPA analyses.

Cheers,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Sarena Selbo](#)  
**To:** [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)  
**Cc:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Team Conference  
**Date:** Wednesday, December 27, 2017 12:56:43 PM

---

Begin forwarded message:

**From:** "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
**Date:** December 27, 2017 at 10:42:55 AM AKST  
**To:** John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, "Putnam, Christopher" <[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, Robert Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, David Houseknecht <[dhhouse@usgs.gov](mailto:dhhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Stacie McIntosh <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, "Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>, Edward Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell <[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>  
**Cc:** Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem <[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>  
**Subject:** Coastal Plain 1002 Area Interagency Interdisciplinary Team Conference

All

*[please forward to anyone that may have an important agency or disciplinary role for scientific considerations on the Beaufort Sea coastal plain and 1002 area specifically]*

With the conclusion of our initial conference call, 1300-1400 18 Oct 2017, was the promise of a second and continuing calls. Since then, the proposed rule change EA to open the Arctic Refuge to oil and gas exploration has been announced for the public record, although the document itself has yet to be released. Additionally, attachments to the 2018 budget includes adding an oil and gas program (development, production, transportation) to the existing purposes of the Arctic Refuge.



This situation begs the issue of where we are with regard to state-of-the-knowledge for natural and physical resources of the Beaufort Sea coastal plain at the landscape scale and 1002 area specifically. Of particular interest is the polar bear: adequacies of existing industry practices, regulations and recovery/management goals which may have been based upon minimal management in the 1002 area per the existing Arctic Refuge CCP.

So the goals of the proposed conference call are: (1) What do we know now? and, more importantly, (2) What do we need to know? including what studies/surveys need to be implemented immediately to gain that knowledge?

DOI [DC] has requested a list of datagaps be forwarded by mid-Jan 2018.

Therefore, there is not much opportunity for discussion. A doodle poll is provided for a conference date on 4, 5 8, 9, or 10 January. Further, I am suggesting a 2-hour block of time for discussion.

<https://doodle.com/poll/n5skx6stsaucyvyc>

As with the last meeting, the conference location will be the Alaska Regional office, Anchorage.

Conference phone number will be provided once the time and date are selected.

Thanks to all, and apologies for the extremely short notice.

John

**From:** [Mark Miller](#)  
**To:** [Loya Wendy M. PhD](#)  
**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Team Conference  
**Date:** Friday, December 29, 2017 5:35:16 PM

---

Just FYI.

Mark E. Miller, PhD  
Deputy Director  
North Slope Science Initiative  
[memiller@blm.gov](mailto:memiller@blm.gov)

Begin forwarded message:

**From:** "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
**Date:** December 29, 2017 at 13:26:12 AKST  
**To:** "Mouritsen, Karen" <[kmourits@blm.gov](mailto:kmourits@blm.gov)>  
**Cc:** "Devaris, Aimee" <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, "Selbo, Sarena" <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, "Longan, Sara W (DNR)" <[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Greg Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>, Karen Clark <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, "Colligan, Mary" <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>  
**Subject:** Re: Coastal Plain 1002 Area Interagency Interdisciplinary Team Conference

Sounds great, Karen! Thank you!

Soch

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

On Fri, Dec 29, 2017 at 1:22 PM, Mouritsen, Karen <[kmourits@blm.gov](mailto:kmourits@blm.gov)> wrote:  
Socheata, Thank you. I do think we should keep meeting. I also am not sure exactly how to structure a group. I have a call into Aimee to see if she has ideas. I do think we should try to have some of us meet next week though. I'll get back to this group if I come up with other ideas today. Thank you, Karen

0000006601

Karen E. Mouritsen  
Acting State Director for BLM-Alaska  
phone 907-271-5080  
cell 202-329-2030

On Fri, Dec 29, 2017 at 12:39 PM, Lor, Socheata <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
wrote:

Hi All,

It was great to meet you on the phone a few days ago about NSSI. During that discussion, we mentioned forming an interdisciplinary team of experts to assess and summarize the state of our knowledge on the coastal plain. I mentioned that such a team was formed in Oct. and we want to support them to continue. Below is an email to pull together the next meeting, followed by some guidance from Mary and me.

As you know, things are happening quickly, and because of the various agencies, I'm not sure how best to proceed and what role we should play. Mary and I briefly discussed perhaps it would be best for us (those on this email and perhaps more that I'm missing?) to be an oversight group to work with the technical science group?

We also thought it would be good for us to meet again to discuss how to proceed? I'm open to suggestions. However, I'm also going to be out of country starting tonight, back in the office on 11 Jan.

Drew Crane is acting for me and he's copied on this message. Please proceed without me.

Happy New Year!

Soch

~~~~~

*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*

~~~~~

----- Forwarded message -----

From: **Lor, Socheata** <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>

Date: Fri, Dec 29, 2017 at 11:50 AM

Subject: Re: Coastal Plain 1002 Area Interagency Interdisciplinary Team  
Conference

To: "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

Cc: "Brady, Stephanie" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, "Colligan, Mary"  
<[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Karen  
Clark <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>

0000006602

Hi John,

Thank you for pulling the technical team together! As per our conversation earlier this week, Greg asked Mary and me to facilitate an interagency group of experts to assess and summarize the state of knowledge for priority resources in the coastal plain. The attached document includes the task statement and a template for summarizing the various topic areas.

Since you are organizing the meeting, we think that it would be best for you to send this template (attached doc) to the list of interagency folks that you've invited to the meeting. We also think that it would be beneficial for those folks to see the document prior to the meeting.

I regret not having a chance to talk to you in person about this and for not being able to attend the meeting. I'll be out of the office from tonight until 11 Jan. However, Drew is in the loop. Please talk to him or Mary if you have questions.

Thank you!

Soch

~~~~~  
Socheata Lor, Ph.D.  
Deputy Assistant Regional Director - Region 7  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)  
[Office: 907.786.3420](#)  
[Cell: 907.891.6194](#)  
~~~~~

On Wed, Dec 27, 2017 at 10:42 AM, Martin, John  
<[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

*[please forward to anyone that may have an important agency or disciplinary role for scientific considerations on the Beaufort Sea coastal plain and 1002 area specifically]*

With the conclusion of our initial conference call, 1300-1400 18 Oct 2017, was the promise of a second and continuing calls. Since then, the proposed rule change EA to open the Arctic Refuge to oil and gas exploration has been announced for the public record, although the document itself has yet to be released. Additionally, attachments to the 2018 budget includes adding an oil and gas program (development, production, transportation) to the existing purposes of the Arctic Refuge.

This situation begs the issue of where we are with regard to state-of-the-knowledge for natural and physical resources of the Beaufort Sea coastal plain at the landscape scale and 1002 area specifically.

Of particular interest is the polar bear: adequacies of existing industry practices, regulations and recovery/management goals which may have been based upon minimal management in the 1002 area per the existing Arctic Refuge CCP.

So the goals of the proposed conference call are: (1) What do we know now? and, more importantly, (2) What do we need to know? including what studies/surveys need to be implemented immediately to gain that knowledge?

DOI [DC] has requested a list of datagaps be forwarded by mid-Jan 2018.

Therefore, there is not much opportunity for discussion. A doodle poll is provided for a conference date on 4, 5 8, 9, or 10 January. Further, I am suggesting a 2-hour block of time for discussion.

<https://doodle.com/poll/n5skx6stsaucyvyc>

As with the last meeting, the conference location will be the Alaska Regional office, Anchorage.

Conference phone number will be provided once the time and date are selected.

Thanks to all, and apologies for the extremely short notice.

John

**From:** [Martin, John](#)  
**To:** [John Trawick](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [Putnam, Christopher](#); [Steve Berendzen](#); [Sara Longan](#); [Mark Miller](#); [Joanna Fox](#); [Doug Damberg](#); [Stephen Arthur](#); [Ronnie Sanchez](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Steven Cohn](#); [Jenifer Kohout](#); [David Houseknecht](#); [Marti Miller](#); [Stacie McIntosh](#); [Eric Taylor](#); [Cribley, Bud](#); [Patrick Lemons](#); [Drew Crane](#); [Wendy Loya](#); [Sarena Selbo](#); [Edward Decleva](#); [Douglas Campbell](#); [Paul Leonard](#); [Wayne Svejnoha](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Tracy Fischbach](#); [Stephanie Brady](#); [Ted Swem](#)  
**Subject:** Coastal Plain 1002 Area Interagency Conf Call - Proposed Agenda Items  
**Date:** Tuesday, January 2, 2018 9:56:42 AM  
**Attachments:** [Attachment 2Jan2018 Coastal Plain 1002 Area State-of-Knowledge Agenda.docx](#)

---

All

This is the first day of work following the holidays and today and tomorrow I'll be sorting through the doodle-poll responses. With 12 responding thus far, it appears the 8 Jan will be our day, but polling is still open.

Please be advised of the tentative agenda/discussion items attached.

Other considerations are: oil and gas activities are no longer limited to exploration activities but include the larger suite of exploration, development, production, and transportation. As such, we need to look at year-round, long-term human activities on the coastal plain, not just winter seismic surveys.

We are still targeting a preliminary response for each of the resource subjects to DOI by 15 Jan 2018.

Thanks

John

**From:** [Davis, Tauline](#)  
**To:** [FW7 All Users-dynamic](#)  
**Subject:** RDT Meeting Notes - First Meeting in 2018.....Check it Out!  
**Date:** Wednesday, January 3, 2018 12:37:20 PM  
**Attachments:** [RDTMeetingNotes1318.pdf](#)

---

Good morning Region 7 and Happy New Year to everyone! Attached are the RDT Meeting Notes for this week, as reported/submitted by the RDT.

Start your year off right and check it out!

--

Tauline Davis  
907-786-3542  
Executive Assistant  
Regional Director's Office

**From:** [Christopher Arp](#)  
**To:** [Wendy Loya](#)  
**Subject:** ANWR winter water supply  
**Date:** Thursday, January 4, 2018 1:20:35 PM  
**Attachments:** [White et al 2008 JAWRA SAR winter water.pdf](#)

---

Hi Wendy,

Took a quick look at 1002 area. Its pretty much all alluvial deposits and no thermokarst lakes except west of Canning and right around Kaktovik. Wonder what industries plan is for water supply for ice roads. Unless most exploration is west of Canning, would have to come from pumping alluvial aquifers or digging gravel pits, but still long ways to haul in between (that's the big advantage of lake-rich part of coastal plain). See White et al. paper attached where they did analysis for the Canning (probably only need to look at table 1 to get the picture...graphs in the manuscript are very confusing). But essentially very few lakes and most freeze solid.

Cheers,  
Chris

-----  
Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center  
Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: 907-474-2783  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)  
<http://inc.uaf.edu/werc/people/chris-arp/>  
<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>  
-----



**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawick](#); [Taylor, Eric](#); [Wendy Loya](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Sara W \(DNR\)](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#)  
**Subject:** Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call  
**Date:** Thursday, January 4, 2018 3:22:54 PM  
**Attachments:** [Coastal Plain 1002 Area Interdisciplinary Information Request 4Jan2018v4.docx](#)  
[Meeting Agenda 8Jan2018v2.docx](#)  
[SIGN-IN SHEET 8Jan2018.doc](#)

---

All

An interagency, interdisciplinary meeting-conference call will convene at the FWS Alaska Region office on 0900-1100 Monday 8 January 2018. Apologies in advance for such short notice but I believe all are aware of the fast-paced nature and need.

For those physically attending, we will meet in the Gordon Watson conference room (first floor); our address is 1011 East Tudor Road, Anchorage, AK.

Vidyo access is available for Service staff. For others calling in please use b5-CIP **passcode** b5-CIP

Please see attachments for details. Also attached is a sign-in sheet for those that may wish to submit a scan for our record and ensure your attendance is annotated.

If you have any other questions, or I may provide additional information, please let me know.

Thanks

John

**From:** [Trawicki, John](#)  
**To:** [Wendy Loya](#); [John Brewer](#); [Scott McGee](#)  
**Subject:** North Slope data layers  
**Date:** Thursday, January 4, 2018 3:25:15 PM

---

Wendy-

We are looking for data layers of north slope infrastructure in the US and Canada, is this something the LCC has or who maybe a good contact to find these data layers?

Please include Scott and John B. in your response, they will be the ones working with the data layers.

Thank you

john t

--

John Trawicki  
Water Resources Branch Chief  
National Wildlife Refuge System, Alaska  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
Work: (907) 786-3474  
Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken place"  
George Bernard Shaw

**From:** [Wendy Loya](#)  
**To:** [John Trawicki](#)  
**Subject:** FW: ANWR winter water supply  
**Date:** Thursday, January 4, 2018 4:55:17 PM  
**Attachments:** [White et al 2008 JAWRA SAR winter water.pdf](#)

---

Hi John,

I had a conversation with Dr. Chris Arp at UAF WERC today, mostly following up on work we have funded with them for NPRA but some preliminary chatter about Arctic Refuge with regards to water resources and fish habitat, as well as snow and snowmelt dynamics. You may be familiar with the reference attached, and below is his quick reply in looking at thermokarst lakes which can have a big impact on infrastructure. I'm assuming you will emerge to lead the science assessment for water resources in Arctic Refuge, and I'd like to be engaged and bring in some of the knowledge and expertise from partners associated with work the Arctic LCC funded with BLM and NSF in NPRA. Perhaps we can set up a conference call with folks for later next week?

I am in Fairbanks this week but will be in the RO next week to dive in.

Cheers,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Christopher Arp [mailto:[cdarp@alaska.edu](mailto:cdarp@alaska.edu)]  
**Sent:** Thursday, January 04, 2018 11:19 AM  
**To:** Wendy Loya  
**Subject:** ANWR winter water supply

Hi Wendy,

Took a quick look at 1002 area. Its pretty much all alluvial deposits and no thermokarst lakes except west of Canning and right around Kaktovik. Wonder what industries plan is for water supply for ice roads. Unless most exploration is west of Canning, would have to come from pumping alluvial aquifers or digging gravel pits, but still long ways to haul in between (that's the big advantage of lake-rich part of coastal plain). See White et al. paper attached where they did analysis for the Canning (probably only need to look at table 1 to get the picture...graphs in the manuscript are very confusing). But essentially very few lakes and most freeze solid.

Cheers,  
Chris

-----  
Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center

Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: 907-474-2783  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)  
<http://ine.uaf.edu/werc/people/chris-arp/>  
<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>

---

**From:** [Trawicki, John](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: FW: ANWR winter water supply  
**Date:** Thursday, January 4, 2018 5:31:37 PM

---

Thanks Wendy-

Just for your information we have a pretty good quantification of water within lake of the coastal plain of the refuge. White et al 2008 highlights many of the same concerns and challenges related to topography, number of lakes and availability of water as we have stated. Salinity may need to be addressed relative to water availability.

thanks for getting back to us.

john t

On Thu, Jan 4, 2018 at 2:55 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi John,

I had a conversation with Dr. Chris Arp at UAF WERC today, mostly following up on work we have funded with them for NPRA but some preliminary chatter about Arctic Refuge with regards to water resources and fish habitat, as well as snow and snowmelt dynamics. You may be familiar with the reference attached, and below is his quick reply in looking at thermokarst lakes which can have a big impact on infrastructure. I'm assuming you will emerge to lead the science assessment for water resources in Arctic Refuge, and I'd like to be engaged and bring in some of the knowledge and expertise from partners associate with work the Arctic LCC funded with BLM and NSF in NPRA. Perhaps we can set up a conference call with folks for later next week?

I am in Fairbanks this week but will be in the RO next week to dive in.

Cheers,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Christopher Arp [mailto:[cdarp@alaska.edu](mailto:cdarp@alaska.edu)]

**Sent:** Thursday, January 04, 2018 11:19 AM

**To:** Wendy Loya

**Subject:** ANWR winter water supply

Hi Wendy,

Took a quick look at 1002 area. Its pretty much all alluvial deposits and no thermokarst lakes except west of Canning and right around Kaktovik. Wonder what industries plan is for water supply for ice roads. Unless most exploration is west of Canning, would have to come from pumping alluvial aquifers or digging gravel pits, but still long ways to haul in between (that's the big advantage of lake-rich part of coastal plain). See White et al. paper attached where they did analysis for the Canning (probably only need to look at table 1 to get the picture...graphs in the manuscript are very confusing). But essentially very few lakes and most freeze solid.

Cheers,

Chris

-----  
Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center  
Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: 907-474-2783  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)

<http://ine.uaf.edu/werc/people/chris-arp/>

<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>  
-----

--

John Trawicki  
Water Resources Branch Chief  
National Wildlife Refuge System, Alaska  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
Work: (907) 786-3474  
Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken place"  
George Bernard Shaw

**From:** [Wendy Loya](#)  
**To:** [Matthew Sturm](#)  
**Subject:** RE: snow report?  
**Date:** Thursday, January 4, 2018 5:47:21 PM  
**Attachments:** [image001.png](#)

---

Hi Matt,

I didn't mean to be cryptic, probably mostly that I don't know what I don't know ☺

Now that the Refuge 1002 area has been opened for oil and gas exploration and development in the Tax Bill, we'll be assembling the science to understand how to do that with minimal impacts. Denning polar bears, sufficient snow to support low-ground pressure vehicles and snowpack for recharge seem like key issues we need to have a handle on, especially the first two. I'd like to understand what data you have from your Arctic Refuge surveys that might be helpful for describing what we know and what our needs are for a better snowcover understanding. You had shared some thoughts about best ways to do snow science on the north slope, so with a real need in mind it would be good to touch base.

Sounds like fun stuff for you in New Mexico!

I am around tomorrow and available on my mobile number 907-227-2942 if you want to chat about the above. If we can't connect soon,

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Matthew Sturm [mailto:[msturm1@alaska.edu](mailto:msturm1@alaska.edu)]  
**Sent:** Thursday, January 04, 2018 3:21 PM  
**To:** Wendy Loya  
**Subject:** Re: snow report?

Hi Wendy:

I am spending Jan. and Feb. in New Mexico, where I paint and do some teaching at the local University...also we're doing our 5th snow school. I would be happy to talk by phone: b6

Your email is pretty cryptic....I read between the lines the 1002 issue is pushing some issue where snow plays a role? It is unclear what it is you want from me, and from the 8th to 12th of Jan. I am in the field teaching snow school.....

So, perhaps we ought to talk tomorrow....and just in case I will try your number tonight.

Matthew

On 1/3/18 1:40 PM, Wendy Loya wrote:

Hi Matthew,

No surprise that I am here to follow up with you on your snow work for the Arctic National Wildlife Refuge. We do need to understand what we know, don't know and need to know, by January 15<sup>th</sup>. Clearly snow cover for winter activities, polar bear dens and contribution to spring water availability seem to be the key questions.

I am in Fairbanks this week 1/3-5 if you might have time to meet? Feel free to email or call/text if you want to set up a time. After this week, we could talk by phone as I'll be back in Anchorage next week. Thanks, and cheers for a happy new year!

0000006615



Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Matthew Sturm [mailto:[msturm1@alaska.edu](mailto:msturm1@alaska.edu)]  
**Sent:** Monday, December 05, 2016 12:19 PM  
**To:** Wendy Loya; Glaspell, Brian  
**Subject:** snow report?

Hi Wendy and Brian:

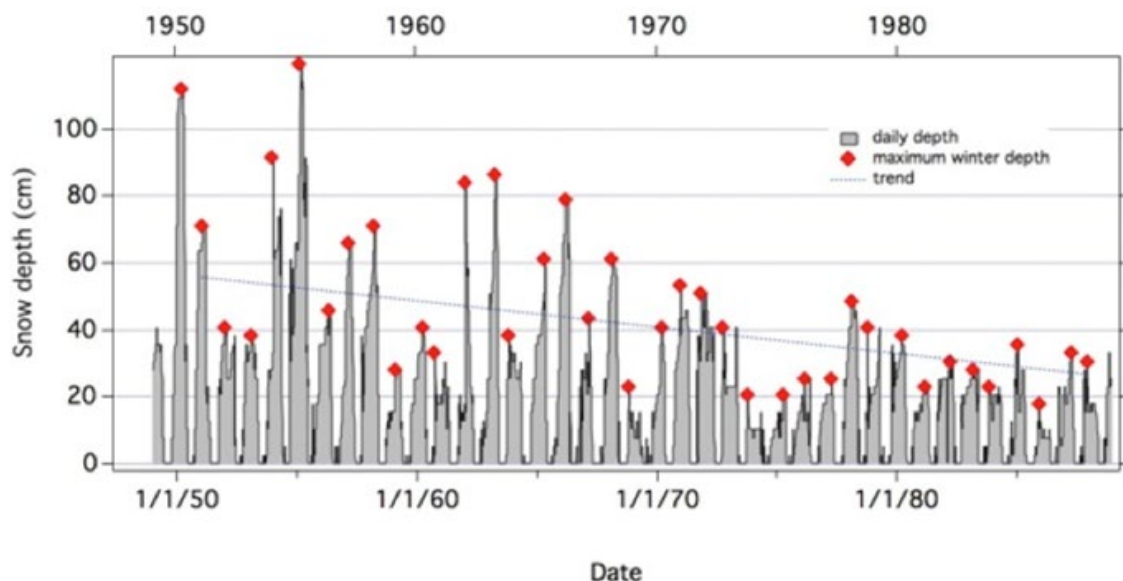
I am headed to the Southwest for a couple of months (I am from there) on what is a mini-working sabbatical. These are usually quite productive times for me for analysis and writing, as there are much fewer interruptions. When we ended our conversation at the end of the your fiscal year, the USFWS was interesting in a report on the snow cover of the Arctic Refuge, and I am still interested in securing funding to produce such a report. Is the interest still there?

I am sure I don't need to tell either of you that the push to open the 1002 area will increase under the new administration....and snow cover may prove an important issue as that issue unfolds. I have pasted in below my analysis of the only long-term record we have of what is happening to that snow cover (from Barter) , and while there are issues with the record, the trend is not a good one for snow cover over tundra during oil exploration. We also know rain-on-snow events are on the rise.

FYI, I attach my latest paper by way of showing that while getting on in years, my productivity is still good. In addition, in that paper I think we have come up with a very novel and useful way at looking at climate change risk and cost that might just be of interest to you. Comments welcome.

I hope you are both having a good winter and I look forward to hearing from you.

Matthew



--  
Dr. Matthew Sturm  
Geophysical Institute  
903 Koyukuk Drive

0000006616

University of Alaska  
Fairbanks, AK 99775-7320  
907-474-5257

--  
Dr. Matthew Sturm  
Geophysical Institute  
University of Alaska-Fairbanks  
907-474-5257  
[msturm1@alaska.edu](mailto:msturm1@alaska.edu)

**From:** [Wendy Loya](#)  
**To:** [Sarena Selbo](#)  
**Subject:** RE: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call  
**Date:** Thursday, January 4, 2018 6:43:33 PM

---

Will do, think I have a good plan to bring forth for the snow research that can help fill that gap, hopefully people are open to it.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Sarena Selbo [mailto:[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)]  
**Sent:** Thursday, January 04, 2018 4:41 PM  
**To:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**Subject:** Fwd: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call

Please let me know how it goes

Begin forwarded message:

**From:** "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
**Date:** January 4, 2018 at 1:22:48 PM AKST  
**To:** Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, "Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>, Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>, "Putnam, Christopher" <[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, Sarah Conn <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)>, Edward Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell <[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Todd Atwood <[tatwood@usgs.gov](mailto:tatwood@usgs.gov)>, Robert Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stacie McIntosh <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>, "Nichelle (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, "Sara W (DNR)" <[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>  
**Cc:** Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem <[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Sarena Selbo

<[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>

**Subject: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call**

All

An interagency, interdisciplinary meeting-conference call will convene at the FWS Alaska Region office on 0900-1100 Monday 8 January 2018. Apologies in advance for such short notice but I believe all are aware of the fast-paced nature and need.

For those physically attending, we will meet in the Gordon Watson conference room (first floor); our address is 1011 East Tudor Road, Anchorage, AK.

Vidyo access is available for Service staff. For others calling in please use SS-CIP **passcode** SS-CIP.

Please see attachments for details. Also attached is a sign-in sheet for those that may wish to submit a scan for our record and ensure your attendance is annotated.

If you have any other questions, or I may provide additional information, please let me know.

Thanks

John

<Coastal Plain 1002 Area Interdisciplinary Information Request  
4Jan2018v4.docx>

<Meeting Agenda 8Jan2018v2.docx>

<SIGN-IN SHEET 8Jan2018.doc>

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** FW: snow report?  
**Date:** Thursday, January 4, 2018 9:43:20 AM  
**Attachments:** [image001.png](#)

---

FYI, should have copied you on this email I sent to Matthew Sturm...have not received reply yet

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Wendy Loya [mailto:[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)]  
**Sent:** Wednesday, January 03, 2018 11:41 AM  
**To:** 'Matthew Sturm'  
**Subject:** RE: snow report?

Hi Matthew,

No surprise that I am here to follow up with you on your snow work for the Arctic National Wildlife Refuge. We do need to understand what we know, don't know and need to know, by January 15<sup>th</sup> ☺ Clearly snow cover for winter activities, polar bear dens and contribution to spring water availability seem to be the key questions.

I am in Fairbanks this week 1/3-5 if you might have time to meet? Feel free to email or call/text if you want to set up a time. After this week, we could talk by phone as I'll be back in Anchorage next week.  
Thanks, and cheers for a happy new year!

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Matthew Sturm [mailto:[msturm1@alaska.edu](mailto:msturm1@alaska.edu)]  
**Sent:** Monday, December 05, 2016 12:19 PM  
**To:** Wendy Loya; Glaspell, Brian  
**Subject:** snow report?

Hi Wendy and Brian:

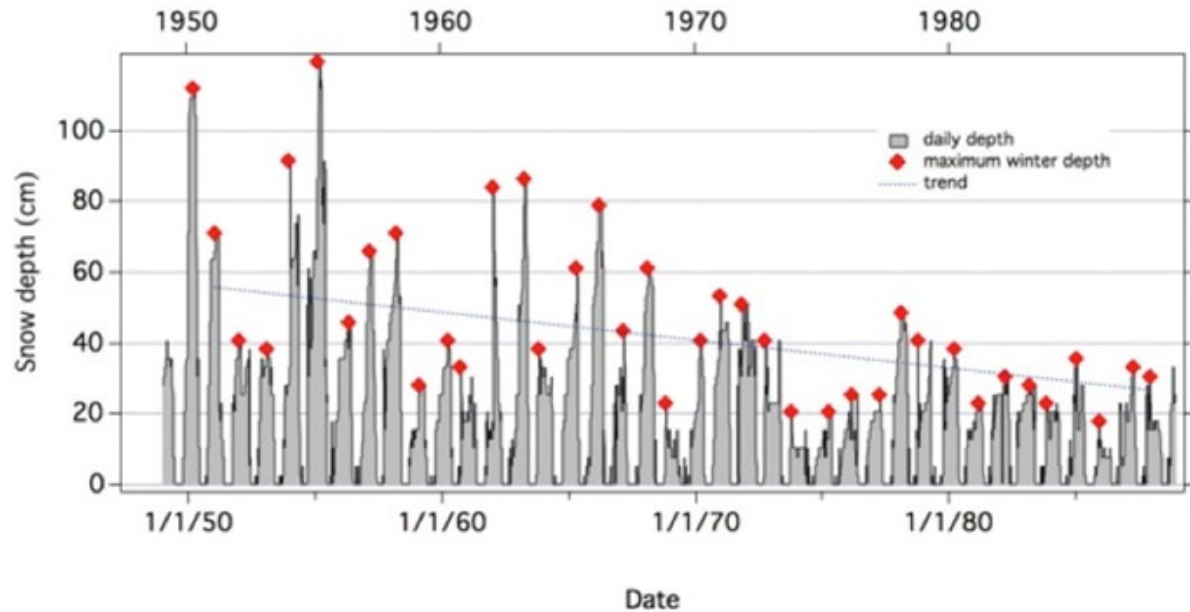
I am headed to the Southwest for a couple of months (I am from there) on what is a mini-working sabbatical. These are usually quite productive times for me for analysis and writing, as there are much fewer interruptions. When we ended our conversation at the end of the your fiscal year, the USFWS was interesting in a report on the snow cover of the Arctic Refuge, and I am still interested in securing funding to produce such a report. Is the interest still there?

I am sure I don't need to tell either of you that the push to open the 1002 area will increase under the new administration....and snow cover may prove an important issue as that issue unfolds. I have pasted in below my analysis of the only long-term record we have of what is happening to that snow cover (from Barter), and while there are issues with the record, the trend is not a good one for snow cover over tundra during oil exploration. We also know rain-on-snow events are on the rise.

FYI, I attach my latest paper by way of showing that while getting on in years, my productivity is still good. In addition, in that paper I think we have come up with a very novel and useful way at looking at climate change risk and cost that might just be of interest to you. Comments welcome.

I hope you are both having a good winter and I look forward to hearing from you.

Matthew



--  
Dr. Matthew Sturm  
Geophysical Institute  
903 Koyukuk Drive  
University of Alaska  
Fairbanks, AK 99775-7320  
907-474-5257

**From:** [Matthew Sturm](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Paul Leonard](#); [Ryan Wilson](#)  
**Subject:** Re: Summary on snow science for Arctic Coastal Plain from phone call 1/4/18  
**Date:** Friday, January 5, 2018 3:06:00 PM

---

Mostly on-track. A few minor points:

1. I suspect the accuracy using WorldView is not quite  $\pm 10$  cm...more like  $\pm 20$  cm.
2. Call but did not get a hold of Frank Urban yet.
3. In addition to outfitting an aircraft, there is a steep but manageable learning curve...or hire someone who already has this skill.
4. I am dubious that for any serious management issues it will ever be possible to get by on modeling and aerial flights alone. Ground measurements will be needed. In short, the snow depth alone is not a measure of the snow strength. That requires knowing the density, which is far more difficult problem to deal with remotely. That said, I could train a few of USFWS keen outdoors people in a few days...and you have the gear to get out in the 1002 area already in Kaktovik...or at least you did.

Matthew

On 1/5/18 10:59 AM, Wendy Loya wrote:

Hi Matthew,

Thank you again for your quick response to my inquiry about snow surveys for the 1002 area and for taking time to walk through some ideas on the phone yesterday. My summary is below:

Overall summary: Snow cover can change significantly from east to west and north to south, so measurements near one location (e.g. Kaktovik) cannot describe the entire area. FWS lacks expertise in physical sciences, but that will be critical component of facilitating exploration and development.

- 1) Wendy will check with Arctic Refuge administration on whether Frank Urban's USGS stations are still operational while Matthew will talk with Frank directly. The ones near Camden Bay and Niguanak validated well with sonic sounder estimates of snow depth, but the Marsh Creek one is in a windy, snow scoured location and not as representative of the surrounding landscape. A summary report of some of this work is available:  
<https://pubs.usgs.gov/ds/812/introduction.html>.
- 2) Key questions are whether the snow is thick enough for transportation and for denning bears, and this differs significantly between flat plain and gullies. Wind blows and accumulates in gullies (creating Polar Bear denning habitat), unless there is a rain on snow or freeze-thaw event that prevents snow redistribution (which could favor securing snow for winter travel with low ground pressure vehicles).

- 3) Structure For Motion (SFM) imaging is likely best tool for looking across coastal plain. It is basically creating a Snow Digital Elevation Model, so you measure snow surface in winter and ground surface in summer, and the difference between the two is snow depth.
  - a. Sturm, Fahnestock et al. proposed using Worldview satellite to evaluate drifts from space; was not funded by NASA this year but may have potential given imperative. Accuracy is  $\pm 10\text{cm}$ , so this would be fine for 3 meter drift detection.
  - b. From an aircraft, which FWS has and which industry contracts for FLIR detection of bears in Dec/Jan, SFM sensors could be mounted and may cost about \$10K plus significant processing time. Aircraft SFM typically has accuracy around  $\pm 10\text{cm}$ . Ground truthing of snow depth is needed, although might be possible to model (eventually). This would be a snowmachine transect at the time of overflight and taking readings with a sonic sounder of snow depth.
    - i. Matt is planning to fly SFM on north slope in April for other NSF project needs. It might be possible to include a 500 meter wide swath on an East-West transect on Arctic Coastal Plain, and FWS and partners could mobilize a ground truthing team.
      1. We have a few SFM measurements already for 1002 and also Hulahula snow drifts
      - ii. Expertise is needed, possibly a post-doc
- 4) Might be worth looking into keeping and instrumenting with climate (wind, temp, snow sensors) for the 1-2 stations of the EarthScope Transportable Array Stations that appear to be deployed in the 1002 area  
<http://www.usarray.org/alaska>.
- 5) Previous work by Sturm et al. included a North to South Transect of Arctic Refuge to understand snow distribution. Take-home message of that work is that wind on coastal plain likely results in lower snow depth in north. This work is in preparation for submission to journal Arctic.

Let me know if any of that looks incorrect or if you want to add new ideas. We will share these ideas next week as the FWS begins to organize teams of expertise to tackle science needs and be in touch to discuss further when you return from your snow science field trip.

Cheers,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)



907.227.2942 (mobile)

--

Dr. Matthew Sturm  
Geophysical Institute  
University of Alaska-Fairbanks  
907-474-5257  
[msturm1@alaska.edu](mailto:msturm1@alaska.edu)

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** RE: Summary on snow science for Arctic Coastal Plain from phone call 1/4/18  
**Date:** Friday, January 5, 2018 11:48:20 AM

---

He called me at 4pm in response to my email, otherwise would have scheduled a call with you involved. But definitely a need to follow up after meeting next week, he is all in for support. If this is a priority that I think it is, might be an opportunity to get a snow science post-doc.

I am headed back to Anchorage this afternoon after a chat with Sarah and Jimmy about ES science needs and lunch with Philip, but you'll be done by then.

One of the outcomes of next week's meeting is hopefully identifying the need for an updated Caribou summer season RSF and migration analysis to go with the development effects model

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Leonard, Paul [mailto:[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)]  
**Sent:** Friday, January 05, 2018 9:19 AM  
**To:** Wendy Loya  
**Subject:** Re: Summary on snow science for Arctic Coastal Plain from phone call 1/4/18

Thanks for sharing. Sounds like a super productive call. Did not know the term Structure from Motion

On Fri, Jan 5, 2018 at 8:59 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Hi Matthew,

Thank you again for your quick response to my inquiry about snow surveys for the 1002 area and for taking time to walk through some ideas on the phone yesterday. My summary is below:

Overall summary: Snow cover can change significantly from east to west and north to south, so measurements near one location (e.g. Kaktovik) cannot describe the entire area. FWS lacks expertise in physical sciences, but that will be critical component of facilitating exploration and development.

1) Wendy will check with Arctic Refuge administration on whether Frank Urban's USGS stations are still operational while Matthew will talk with Frank directly. The ones near Camden Bay and Niguanak validated well with sonic sounder estimates of snow depth, but the Marsh Creek one is in a windy, snow scoured location and not as representative of the surrounding landscape. A summary report of some of this work is available: <https://pubs.usgs.gov/ds/812/introduction.html>.

2) Key questions are whether the snow is thick enough for transportation and for denning

bears , and this differs significantly between flat plain and gullies. Wind blows and accumulates in gullies (creating Polar Bear denning habitat), unless there is a rain on snow or freeze-thaw event that prevents snow redistribution (which could favor securing snow for winter travel with low ground pressure vehicles).

3) Structure For Motion (SFM) imaging is likely best tool for looking across coastal plain. It is basically creating a Snow Digital Elevation Model, so you measure snow surface in winter and ground surface in summer, and the difference between the two is snow depth.

a. Sturm, Fahnestock et al. proposed using Worldview satellite to evaluate drifts from space; was not funded by NASA this year but may have potential given imperative. Accuracy is  $\pm 10\text{cm}$ , so this would be fine for 3 meter drift detection.

b. From an aircraft, which FWS has and which industry contracts for FLIR detection of bears in Dec/Jan, SFM sensors could be mounted and may cost about \$10K plus significant processing time. Aircraft SFM typically has accuracy around  $\pm 10\text{cm}$ . Ground truthing of snow depth is needed, although might be possible to model (eventually). This would be a snowmachine transect at the time of overflight and taking readings with a sonic sounder of snow depth.

i. Matt is planning to fly SFM on north slope in April for other NSF project needs. It might be possible to include a 500 meter wide swath on an East-West transect on Arctic Coastal Plain, and FWS and partners could mobilize a ground truthing team.

1. We have a few SFM measurements already for 1002 and also Hulahula snow drifts

ii. Expertise is needed, possibly a post-doc

4) Might be worth looking into keeping and instrumenting with climate (wind, temp, snow sensors) for the 1-2 stations of the EarthScope Transportable Array Stations that appear to be deployed in the 1002 area <http://www.usarray.org/alaska>.

5) Previous work by Sturm et al. included a North to South Transect of Arctic Refuge to understand snow distribution. Take-home message of that work is that wind on coastal plain likely results in lower snow depth in north. This work is in preparation for submission to journal Arctic.

Let me know if any of that looks incorrect or if you want to add new ideas. We will share these ideas next week as the FWS begins to organize teams of expertise to tackle science needs and be in touch to discuss further when you return from your snow science field trip.

Cheers,  
Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

**From:** [Pearce, John](#)  
**To:** [Martin, John](#)  
**Cc:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnova](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Sara W \(DNR\)](#); [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call  
**Date:** Sunday, January 7, 2018 11:46:02 PM  
**Attachments:** [USGS 1002 Report contents.docx](#)

---

All,

Consult w USGS



I'm happy to discuss the report further on Monday and hope that it will be useful as this group responds to the resource assessment summaries requested by DOI.

John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
4210 University Drive  
Anchorage, Alaska 99508  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

On Thu, Jan 4, 2018 at 1:22 PM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

An interagency, interdisciplinary meeting-conference call will convene at the FWS Alaska Region office on 0900-1100 Monday 8 January 2018. Apologies in advance for such short notice but I believe all are aware of the fast-paced nature and need.

For those physically attending, we will meet in the Gordon Watson conference room (first floor); our address is 1011 East Tudor Road, Anchorage, AK.

Vidyo access is available for Service staff. For others calling in please use **b5-CIP** **passcode** **b5-CIP**

Please see attachments for details. Also attached is a sign-in sheet for those that

may wish to submit a scan for our record and ensure your attendance is annotated.

If you have any other questions, or I may provide additional information, please let me know.

Thanks

John

**From:** [Martin, John](#)  
**To:** [Swem, Ted](#)  
**Cc:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Sara W \(DNR\)](#); [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call  
**Date:** Monday, January 8, 2018 7:57:38 AM  
**Attachments:** [12.05.17 Chairman"s Mark Updated with Final Amendments.docx](#)

---

Ted

Thanks for making this distinction.

Yes, we are still under a continuing resolution, but the 2018 tax bill has been authorized, hence the language becomes effective 1 Jan.

No, I don't have the exact language of the final bill but have an earlier draft, which I understand has not changed during any of the final negotiations up to submittal to the President.

It is attached for your reference.

Summary - ANILCA Section 1003 is voided and removed; "oil and gas program" are added to Arctic Refuge purposes; BLM has oversight of the leasing program for exploration, development, production and transportation; and, clarification are added to definitions of Section 1002.

Thanks

John

On Fri, Jan 5, 2018 at 1:45 PM, Swem, Ted <[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)> wrote:

John:

Do you have the exact language from the legislation that modifies ANILCA and the Arctic NWR purpose to include the oil and gas program? It might be helpful to see exactly what it says. And your agenda, in which you said there is new language for ANILCA to change the purpose says that language was in the 2018 budget which has been authorized. My understanding is that we're still working under a CR so we don't yet have a budget that's been authorized, and I was also under the impression from the news media that authorization from the oil and gas program comes from the new tax legislation. Am I wrong or was that a typo in your agenda?

Ted

On Thu, Jan 4, 2018 at 1:22 PM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

An interagency, interdisciplinary meeting-conference call will convene at the FWS Alaska Region office on 0900-1100 Monday 8 January 2018. Apologies in advance for such short notice but I believe all are aware of the fast-paced nature

and need.

For those physically attending, we will meet in the Gordon Watson conference room (first floor); our address is [1011 East Tudor Road, Anchorage, AK](#).

Vidyo access is available for Service staff. For others calling in please use **passcode**

Please see attachments for details. Also attached is a sign-in sheet for those that may wish to submit a scan for our record and ensure your attendance is annotated.

If you have any other questions, or I may provide additional information, please let me know.

Thanks

John



**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Sara W \(DNR\)](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#)  
**Subject:** Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting/Conference Call 8 Jan 2018 - FINAL AGENDA  
**Date:** Monday, January 8, 2018 8:52:44 AM  
**Attachments:** [Meeting Agenda FINAL 8Jan2018v3.docx](#)  
[12.05.17 Chairman's Mark Updated with Final Amendments.docx](#)

---

All

Attached is the final agenda for our Monday meeting-conference call.

Also attached is a draft copy of the new ANILCA language, which I believe remained unchanged through final authorization under the new 2018 tax bill.

Thanks to all

John

**From:** [Jess Grunblatt](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Miller, Mark](#); [E. Jamie Trammell](#); [Timm Nawrocki](#)  
**Subject:** Re: north slope infrastructure data  
**Date:** Monday, January 8, 2018 10:06:00 AM  
**Attachments:** [image001.png](#)

---

Hi Wendy,

I recently completed an update to publicly available infrastructure data (REA) for roads and facilities and am trying to work out public distribution as there are some issues with oil field infrastructure. Line work was digitized from recent high-res ortho-imagery so it is a noticeable improvement over existing data. Let me know if this is of interest to you.

Regards,  
Jess

On Sun, Jan 7, 2018 at 12:22 PM, E. Jamie Trammell <[\[REDACTED\]](#)> wrote:

Hey Wendy,

Good to hear from you! Great to hear you're interested in this data.

I'm more than happy to share it, but I'm CCing Timm Nawrocki with ACCS as he was our primary data delivery master, so he's likely got all the data for this in a more package-ready form that I do. Timm, would you mind passing the Landscape and Ecological Integrity data package?

I'm also CCing Jess Grunblatt, as he's got access to some more updated linear feature data. It's not "publically" available, but he was pretty sure he could share it with you for FWS activities. The work cleaned up some of the digitizing that we did at ACCS (we weren't technically supposed to be creating data, so we didn't spend a ton of time with it), so it's definitely an improvement.

As a side note, we are trying to get approval and funding to serve all the REA data at ACCS. Given the uncertainty of the landscape approach at BLM, we want to make sure this data will remain available for all interested users.

Hope this helps!  
Jamie

On Thu, Jan 4, 2018 at 3:47 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Jamie,

I was looking for infrastructure data for the north slope (and Canadian Arctic) and was wondering if you have combined, shareable data from the REA? It is for FWS purposes. While we can go to the sources listed in table F-2, of course it would be better and easier to work through this with your knowledge and expertise. Let me know if you can help, we'd be grateful!

Thank you,

Wendy

0000006633

Theme	Data Source	Description	Site Impact Score	Est. Relative Stress	Decay Distance (m)
<b>Transportation</b>					
Alternative Transportation Routes	Digitized using aerial imagery (BDL-GINA)	Lower Coleville River	0.7	Low	500
Local Roads	AK DOT, refined using aerial imagery (BDL-GINA)	Local roads within villages	0.2	High	500
Haul Road	AK DOT	Dalton Highway	0.05	Very High	5000
<b>Urban and Industrial Development</b>					
High Density Development	Digitized using aerial imagery (BDL-GINA)	Oil facilities	0.05	High	2000
Medium Density Development	Digitized using aerial imagery (BDL-GINA)	Village footprints	0.5	Medium	1000
Medium Density Development	North Slope Borough	Hunting/fishing camps	0.5	Medium	1000
Powerline/Transmission lines	AK DNR	Current industrial lines	0.5	Medium	500
Oil /gas Wells	Audubon Alaska	Current, non-exploratory oil and gas wells	0.5	Medium	500
Current Mines	USGS-ARDF	Red Dog mine	0.05	Very High	1500

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

[907.786.3532](tel:907.786.3532) (office)

[907.227.2942](tel:907.227.2942) (mobile)

--

E. Jamie Trammell, PhD  
Environmental Science and Policy Department  
Southern Oregon University  
Ashland, OR 97520

--

Jess Grunblatt  
Research Professional  
Alaska Center for Conservation Science (ACCS)  
University of Alaska Anchorage,  
Beatrice McDonald Hall - Rm 112  
3211 Providence Dr., Anchorage, Alaska 99508  
[jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)  
Office: (907) 786 6353  
Cell: (907) 244 2435

**From:** [Wendy Loya](#)  
**To:** [Stephanie Brady](#)  
**Subject:** FW: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call  
**Date:** Monday, January 8, 2018 11:34:08 AM  
**Attachments:** [USGS 1002 Report contents.docx](#)

---

Updated 1002 table of contents

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Pearce, John [mailto:[jpearce@usgs.gov](mailto:jpearce@usgs.gov)]  
**Sent:** Sunday, January 07, 2018 9:46 PM  
**To:** Martin, John  
**Cc:** Steve Berendzen; Joanna Fox; Stephen Arthur; Drew Crane; Doug Damberg; Ronnie Sanchez; Cribley, Bud; Jenifer Kohout; Putnam, Christopher; Patrick Lemons; Paul Leonard; Sarah Conn; Edward Decleva; Douglas Campbell; Diane Granfors; John Trawicki; Taylor, Eric; Wendy Loya; Aimee Devaris; Christian Zimmerman; David Houseknecht; Marti Miller; Todd Atwood; Robert Brumbaugh; Zachary Lyons; Wayne Svejnoha; Stacie McIntosh; Steven Cohn; Serena Sweet; Nichelle (Shelly); Mark Miller; Sara Longan; Sara W (DNR); Mitch Ellis; Mary Colligan; Lor, Socheata; Ted Swem; Stephanie Brady; Tracy Fischbach; Sarena Selbo  
**Subject:** Re: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call

All,

Consult w USGS



I'm happy to discuss the report further on Monday and hope that it will be useful as this group responds to the resource assessment summaries requested by DOI.

John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
4210 University Drive  
Anchorage, Alaska 99508  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

On Thu, Jan 4, 2018 at 1:22 PM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:  
All

An interagency, interdisciplinary meeting-conference call will convene at the FWS Alaska Region office on 0900-1100 Monday 8 January 2018. Apologies in advance for such short notice but I believe all are aware of the fast-paced nature and need.

For those physically attending, we will meet in the Gordon Watson conference room (first floor); our address is 1011 East Tudor Road, Anchorage, AK.

Vidyo access is available for Service staff. For others calling in please use b5-CIP [REDACTED] **passcode** b5-CIP [REDACTED].

Please see attachments for details. Also attached is a sign-in sheet for those that may wish to submit a scan for our record and ensure your attendance is annotated.

If you have any other questions, or I may provide additional information, please let me know.

Thanks

John

**From:** [Burkart, Greta](#)  
**To:** [Torre, J](#)  
**Cc:** [Wendy Loya](#)  
**Subject:** help with vegetation resource assessment for Arctic Refuge  
**Date:** Monday, January 8, 2018 1:01:54 PM

---

Hi Torre,

The Fish and Wildlife Service needs to develop a resource assessment on vegetation and potential impacts of oil and gas exploration in the 1002 area. Because Janet is out of town, Wendy Loya has agreed to lead development of this section. The vegetation assessment will be part of an interdisciplinary assessment, will likely only be a few pages and will be due on Monday 15 January.

I know Janet has spent a great deal of time preparing information for an effort like this and I can forward along some of the information she wanted to make sure would be included.

I am just checking to see if you are in Fairbanks and would be able to contribute to and/or review the vegetation assessment.

Thanks and I hope you are doing well!

Greta

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
101 12 th Ave Rm 236  
Fairbanks, AK 99701  
ph: (907) 456-0519  
fax: (907) 456-0428  
email: [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)  
[www.facebook.com/arcticnationalwildliferefuge](https://www.facebook.com/arcticnationalwildliferefuge)

**From:** [Burkart, Greta](#)  
**To:** [Wendy Loya](#)  
**Subject:** Fwd: Can someone send me Heidi's snow report from the teams drive?  
**Date:** Monday, January 8, 2018 1:05:40 PM  
**Attachments:** [Jorgenson et-al 2010-RecoverySeismicTrails-paper&supplements.pdf](#)

---

Hi Wendy,

I know Janet wanted to make sure her paper (long-term recovery patterns after seismic exploration) is included in any documents on potential impacts of oil exploration, so I thought I would forward this along.

Thanks,

Greta

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
101 12 th Ave Rm 236  
Fairbanks, AK 99701  
ph: (907) 456-0519  
fax: (907) 456-0428  
email: [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)  
[www.facebook.com/arcticonationalwildliferefuge](https://www.facebook.com/arcticonationalwildliferefuge)

----- Forwarded message -----

**From:** Jorgenson, Janet <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>  
**Date:** Thu, Nov 16, 2017 at 10:38 AM  
**Subject:** Fwd: Can someone send me Heidi's snow report from the teams drive?  
**To:** Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>  
**Cc:** "Burkart, Greta" <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>

Hello Tracy, Greta Burkart wrote me asking for help finding a document she needed for the EA you are working on, which is how I found out about it. I wrote a paper in 2010 on impacts to tundra from seismic exploration. It included a section on 'management implications' that I would think would be useful for any EA on the subject. I've attached the paper here. I have also recently talked to people at Alaska DNR who regulate seismic tundra travel on the North Slope, to find out about current practices, since I expected to get a request for information from FWS sometime soon. Let me know if you want to hear more about this. Thank you, Janet

----- Forwarded message -----

**From:** Burkart, Greta <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>  
**Date:** Wed, Nov 15, 2017 at 6:10 PM  
**Subject:** Re: Can someone send me Heidi's snow report from the teams drive?  
**To:** "Jorgenson, Janet" <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>  
**Cc:** Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>

Thanks Janet,

The regional office is writing an EA for effects of seismic work in the 1002 area and Tracy Fischbach asked me to write something up for water resources and it has to get to them by tomorrow morning. This is just the first draft, so I am assuming they would contact you about additional drafts.

Greta

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
[101 12 th Ave Rm 236](#)  
[Fairbanks, AK 99701](#)  
[ph: \(907\) 456-0519](#)  
[fax: \(907\) 456-0428](#)  
[email: greta\\_burkart@fws.gov](#)  
[www.facebook.com/arcticnationalwildliferefuge](#)

On Wed, Nov 15, 2017 at 2:20 PM, Jorgenson, Janet <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)> wrote:  
Is this what you wanted? What is the EA for?

On Wed, Nov 15, 2017 at 1:41 PM, Burkart, Greta <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)> wrote:  
Can someone send me Heidi's snow report from the teams drive? It should be under reports. I just found out that I need to write part of an EA for impacts of seismic by Thursday at noon and I do not have access to the Teams drive.

Thanks,

Greta

--

Janet C. Jorgenson  
Botanist  
Arctic National Wildlife Refuge  
101 12th Ave, Rm 236  
Fairbanks, Alaska 99701

907-456-0216



**From:** [Wendy Loya](#)  
**To:** [Sara Longan](#); [Paul Leonard](#); [Mark Miller](#); [Jess Grunblatt](#)  
**Subject:** RE: follow-up meeting: 1002 informational workshop  
**Date:** Monday, January 8, 2018 2:24:29 PM

---

Hi Sara,

Thanks for following up on this, I think we could squeeze an hour in on Friday to start to scope this out, especially if there are some budget decisions being made this month.

Paul and I are available all day Friday except 9-10am.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Longan, Sara [mailto:[slongan@blm.gov](mailto:slongan@blm.gov)]  
**Sent:** Monday, January 08, 2018 11:35 AM  
**To:** Wendy Loya; Leonard, Paul; Mark Miller; Jess Grunblatt  
**Subject:** follow-up meeting: 1002 informational workshop

Hello,

Sounds like we are all staying busy on the 1002 information needs. Should we try to meet this Friday, or when you are available, to discuss a Spring 2018 time frame workshop? I know we might all be working busily to help meet the Jan 15th deadline, so let me know if it's better to meet next week instead.

Thanks,

--

Sara Longan, PhD  
Executive Director  
North Slope Science Initiative (NSSI)  
907-271-3431

**From:** [Leonard, Paul](#)  
**To:** [Scott McGee](#)  
**Cc:** [Wendy Loya](#); [John Trawicki](#)  
**Subject:** Re: DEM for Arctic Coastal Plain  
**Date:** Monday, January 8, 2018 3:30:40 PM

---

Hello Scott,

There are 2 basic products from the Polar DEM dataset:

1. Mosaicked images - 50 x 50 km tiles that have been post-processed @ 5m resolution - I have all of these across the slope
2. Strip DEMs @ 2m resolution - between 16-18 km in width x 110-120 km in length. I have some of these across the slope. These require quite a bit of post-processing but would be happy to assist for a given area.

If the first option will work for you I can set up a file transfer. If you'd like to explore the second option perhaps we can set up a call to discuss details on Thursday AM of this week?

Cheers,  
Paul

On Mon, Jan 8, 2018 at 12:27 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Scott,

John T indicated you all need the updated DEM for the coastal plain, so I am copying our Science Coordinator Paul Leonard who has been working with the new 2m DEM. He is working from the Eastern Time Zone today and Tuesday, but should have time to communicate by email and work with you to acquire the data you need.

Best,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

Paul Leonard, PhD

Science Coordinator

[Arctic LCC](#)

101 12th Ave. Room 216

Fairbanks, AK 99701

(907) 456-0445

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** FW: Urgent -- Arctic Refuge needs your help with climate resource assessment  
**Date:** Monday, January 8, 2018 3:50:35 PM

---

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Burkart, Greta [mailto:[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)]  
**Sent:** Monday, January 08, 2018 10:42 AM  
**To:** Urban, Frank  
**Cc:** Gary Clow; Joanna Fox; Stephen Arthur; Steve Berendzen; John Trawicki; Janet Jorgenson; Wendy Loya  
**Subject:** Re: Urgent -- Arctic Refuge needs your help with climate resource assessment

Thank you Frank,

I am forwarding your email to Wendy Loya who agreed to lead the resource assessment for climate. John Trawicki and I will be in touch with both of you regarding overlap between the climate and water assessments as they relate to snow.

Greta

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
101 12 th Ave Rm 236  
Fairbanks, AK 99701  
ph: (907) 456-0519  
fax: (907) 456-0428  
email: [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)  
[www.facebook.com/arcticnationalwildliferefuge](https://www.facebook.com/arcticnationalwildliferefuge)

----- Forwarded message -----

**From:** Urban, Frank <[urban@usgs.gov](mailto:urban@usgs.gov)>  
**Date:** Mon, Jan 8, 2018 at 10:21 AM  
**Subject:** Re: Urgent -- Arctic Refuge needs your help with climate resource assessment  
**To:** "Burkart, Greta" <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>  
**Cc:** Gary Clow <[clow@usgs.gov](mailto:clow@usgs.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, John Trawicki <[John\\_Trawicki@fws.gov](mailto:John_Trawicki@fws.gov)>, Janet Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>

I was on the phone but had to get off at noon mountain-

From what it sounded like, I really do not have time to do compile things as I have a very important deadline coming up in 2 weeks, as to climate, it seems that there would be someone else in USGS/FWS. I can help contribute as part of a team but do not have time to be a lead if that is where you were going with it.

On Fri, Jan 5, 2018 at 3:59 PM, Burkart, Greta <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)> wrote:  
Hi Frank and Gary,

I wanted to make sure you are aware of Monday's interagency, interdisciplinary meeting to organize the rapid development of assessment summaries for the 1002 area. In the future, the assessments will continue to be developed and will likely be a building block for future inventory and monitoring activities.

Staff from BLM, USGS, and USFWS will be attending the meeting. You are welcome to attend as well (see call in information below), but you don't actually need to. The Arctic Refuge managers and other staff think that you would be the best people to lead the climate assessment summary and any future climate work in the Refuge. So, we want to give you a heads up that we plan to nominate you as a potential lead at Monday's meeting. We apologize for the short notice, but there is a very fast turn-around time to get these assessments to the lawyers on 15 January.

The assessment will include the current knowledge of contaminants, a comparison of NPR-A and the 1002 area, data gaps in the 1002 area, and major concerns associated with the three expected phases of oil activity (winter seismic, winter exploration with pads and test wells, and development).

For more information, see the attached agenda and information request.

Thanks,

Greta

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
101 12 th Ave Rm 236  
Fairbanks, AK 99701  
ph: (907) 456-0519  
fax: (907) 456-0428  
email: [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)  
[www.facebook.com/arcticnationalwildliferefuge](https://www.facebook.com/arcticnationalwildliferefuge)

----- Forwarded message -----

From: **Trawicki, John** <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>

Date: Fri, Jan 5, 2018 at 7:44 AM

Subject: Fwd: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference

Call

To: Greta Burkart <[Greta\\_Burkart@fws.gov](mailto:Greta_Burkart@fws.gov)>, Joshua Rose <[Joshua\\_Rose@fws.gov](mailto:Joshua_Rose@fws.gov)>,  
"Perdue, Margaret" <[margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov)>, Jasper Hardison  
<[Jasper\\_Hardison@fws.gov](mailto:Jasper_Hardison@fws.gov)>, Cathleen Flanagan <[Cathleen\\_Flanagan@fws.gov](mailto:Cathleen_Flanagan@fws.gov)>

fyi

----- Forwarded message -----

From: **Martin, John** <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

Date: Thu, Jan 4, 2018 at 1:22 PM

Subject: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call

To: Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>,  
Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Doug  
Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>,  
"Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>, Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>,  
"Putnam, Christopher" <[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Patrick Lemons  
<[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, Sarah Conn  
<[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)>, Edward Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell  
<[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, John Trawicki  
<[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Wendy Loya  
<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris  
<[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, David Houseknecht  
<[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Todd Atwood  
<[tatwood@usgs.gov](mailto:tatwood@usgs.gov)>, Robert Brumbach <[rbrumbach@blm.gov](mailto:rbrumbach@blm.gov)>, Zachary Lyons  
<[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stacie McIntosh  
<[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>,  
"Nichelle (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Sara Longan  
<[slongan@blm.gov](mailto:slongan@blm.gov)>, "Sara W (DNR)" <[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>  
Cc: Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor,  
Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem <[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady  
<[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Sarena Selbo  
<[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>

All

An interagency, interdisciplinary meeting-conference call will convene at the FWS Alaska Region office on 0900-1100 Monday 8 January 2018. Apologies in advance for such short notice but I believe all are aware of the fast-paced nature and need.

For those physically attending, we will meet in the Gordon Watson conference room (first floor); our address is [1011 East Tudor Road, Anchorage, AK](#).

Vidyo access is available for Service staff. For others calling in please use

**passcode**

Please see attachments for details. Also attached is a sign-in sheet for those that may wish to submit a scan for our record and ensure your attendance is annotated.

If you have any other questions, or I may provide additional information, please let me know.

Thanks

John

--

John Trawicki  
Water Resources Branch Chief  
National Wildlife Refuge System, Alaska  
U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)  
Work: (907) 786-3474  
Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken place"  
George Bernard Shaw

--

Frank Urban  
U.S. Geological Survey  
MS 980, Box 25046  
Denver, CO 80225  
303-236-4790

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** NPRA Exploration assumptions for developing science needs for 1002 Coastal Plain  
**Date:** Monday, January 8, 2018 4:16:00 PM  
**Attachments:** [Exploration Chapter Vol2 NPR-A Final IAP FEIS 2013.pdf](#)

---

See attached for excerpt from Vol 2

☺

For the Caribou part, it gets much more complicated and different assumptions about how development will occur, so I think identifying high value habitat (ala Wilson et al. RSF), kernel of seasonal use (ala Wilson methods and others) and migration corridors is the first stage science needs.

:)

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)



**From:** [Wendy Loya](#)  
**To:** [Sara Longan](#)  
**Subject:** Accepted: Arctic LCC and NSSI follow-up: 1002

---

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** Snow research by Sveta Stuefer that might be relevant to 1002 Science needs  
**Date:** Monday, January 8, 2018 4:27:14 PM  
**Attachments:** [ADOT\\_ADNR\\_WERC0818\\_Final\\_05Oct09.pdf](#)

---

See below and also:

[https://www.researchgate.net/publication/241790788\\_Snow\\_Management\\_to\\_Augment\\_Fresh\\_Water\\_Supplies\\_in\\_the\\_Arctic](https://www.researchgate.net/publication/241790788_Snow_Management_to_Augment_Fresh_Water_Supplies_in_the_Arctic)

Don't hesitate to contact her if you have questions.

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Sveta Stuefer [mailto:[sveta.stuefer@alaska.edu](mailto:sveta.stuefer@alaska.edu)]  
**Sent:** Thursday, January 04, 2018 10:51 AM  
**To:** Wendy Loya  
**Cc:** Christopher Arp  
**Subject:** past projects

Wendy,

it was good meeting you today. Below are several links to DOE and ADOT projects that we mentioned.

ADOT&PF project east of Dalton Hwy (project report is attached). This is station network map that includes Bullen Point project:  
[http://ine.uaf.edu/werc/projects/bullen/images/091207\\_station\\_basins\\_small\\_labeled2.jpg](http://ine.uaf.edu/werc/projects/bullen/images/091207_station_basins_small_labeled2.jpg)

Two relevant DOE projects (with final reports at the bottom of each page).

<https://www.netl.doe.gov/research/oil-and-gas/project-summaries/enhanced-oil-recovery/05684arcticlakes>  
<https://www.netl.doe.gov/research/oil-and-gas/project-summaries/natural-gas-resources/de-nt0005683>

Best regards,  
Sveta

--

Sveta Stuefer, Ph.D.  
Assistant Professor  
Department of Civil & Environmental Engineering  
Water and Environmental Research Center  
University of Alaska Fairbanks  
1760 Tanana Drive, Duckering Rm 463  
Fairbanks, AK 99775-5860, USA  
tel: +1 (907) 474-2714  
fax: +1 (907) 474-7041

**From:** [Wendy Loya](#)  
**To:** [Stephen Arthur](#); [Greta Burkart](#); [Christopher Latty](#)  
**Cc:** [Steve Berendzen](#); [Paul Leonard](#)  
**Subject:** Any info from Janet about 1002 vegetation/landscape studies needed?  
**Date:** Monday, January 8, 2018 6:15:34 PM  
**Attachments:** [Permafrost Characterization and Mapping for Northern Alaska Final 20150608.pdf](#)  
[Lara ACP Mapping presentation ICOP2016.pdf](#)

---

Hi Steve A , Greta, Chris, and Steve B

I wanted to check in with you and see if Janet has shared any of her thoughts about studies that she would like to see done with regards to vegetation or other terrestrial ecology associated with advancing exploration and development of the 1002 area?

My initial thoughts are that for the summer following winter exploration activities (e.g. seismic), the Refuge would want to follow up with some vegetation surveys to observe whether there had been adequate snowcover to protect vegetation and soils where low-ground pressure vehicles are used and similarly where any ice pads or other staging might have occurred. I'll look to her 2010 publication to flesh that out and identify science gaps that could have helped mitigate damage observed

Just a couple of FYI's:

Arctic LCC supported development of an updated landform map for the wetlands of the entire Arctic Coastal Plain (although the 1002 area covers more than the lowland wetland types that were the focus). This work was done as part of an effort to describe thermokarst potential and model future active layer depths and thus landform transformation. I'll attach a poster (Lara ACP Mapping Presentation) that describes this work and Paul has the GIS data produced.

We also have a report by Torre Jorgensen on Permafrost mapping for the north slope and while not at a scale for industrial applications, that will be useful for the soils and permafrost assessment. It is not a huge file, so I will also attach it in case it can help with any hydrology or habitat descriptions you all may be working on.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Burkart, Greta](#)  
**To:** [Trawicki, John](#)  
**Cc:** [Wendy Loya](#); [Stephen Arthur](#)  
**Subject:** Re: FW: Summary on snow science for 1002 Arctic Coastal Plain from phone call 1/4/18  
**Date:** Monday, January 8, 2018 6:26:01 PM  
**Attachments:** [Arctic Refuge Snow Science 2014 Report.pdf](#)

---

Hi John and Wendy,

I have attached the USFWS 2014 report on the end-of-winter snow traverse that Matthew Sturm was referring to. Below I have provided a summary that I wrote up for the USGS Coastal Plain Resource Assessment.

Greta

"In 2014 as part of broad-scale survey of end-of-winter (March) snow characteristics along a Brooks Range south-to-north traverse snow depth, snow- water-equivalent (SWE), and chemistry measurements were taken at nineteen stations in the Arctic National Wildlife Refuge (Helling and Sturm 2015). Average snow depth varied with the deepest snow found south of the range (71.9 cm) and the shallowest snow (28.3 cm) found north of the range. There were no significant latitudinal differences in SWE across the range. Previous research in northwestern Alaska suggests snow fall trends result in a reduction of SWE on the arctic coastal plain compared to SWE in the mountains and foothills. However, this trend was not apparent in the northeastern Alaska. The lack of a latitudinal gradient in SWE from the mountains to the coastal plain in the Arctic Refuge is likely a function of climate driven weather interactions with higher latitudinal Brooks Range topography that is relatively close to the coastal plain.

A total of 2,424 snow depth measurements were taken at five stations in the 1002 area. Snow depth at sites in the 1002 area varied from 28.3 cm in the upper Marsh Creek watershed to 64.7 cm on the Canning River delta. Snow water equivalent in the 1002 area varied from 9.6 cm at Marsh Creek to 15.2 cm near the mouth of Marsh Creek.

Several snow chemistry samples were taken in various snow layers at all stations in the 1002 area. Nitrate concentrations ranged from 0.66 nanomols/cm<sup>2</sup> in freshly fallen snow in the Canning River watershed to 27.6 nmol/cm<sup>2</sup> in hoar frost collected from the Hulahula River watershed. Sulfate concentrations followed a similar pattern and ranged from 0.58 nmols/cm<sup>2</sup> in the Canning River watershed to 141.31 nmols/cm<sup>2</sup> in the Hulahula River watershed."

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
101 12 th Ave Rm 236  
Fairbanks, AK 99701  
ph: (907) 456-0519  
fax: (907) 456-0428  
email: [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)  
[www.facebook.com/arcticnationalwildliferefuge](https://www.facebook.com/arcticnationalwildliferefuge)

On Mon, Jan 8, 2018 at 2:49 PM, Trawicki, John <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)> wrote:

lets talk when you have a moment, I was hoping to see the outline from john, but we should move forward,

reading NPRA info now

----- Forwarded message -----

From: **Wendy Loya** <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>

Date: Mon, Jan 8, 2018 at 2:30 PM

Subject: FW: Summary on snow science for 1002 Arctic Coastal Plain from phone call 1/4/18

To: John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>

Cc: Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>

Hi John,

Paul, Arctic LCC Science Coordinator cc'ed here, will be drafting the science needs section for climate and snow, so he'll keep us in the loop as questions arise.

Below is an email exchange between myself and Matthew Sturm that I mentioned when we chatted after today's meeting. Paul will pull this and info from Frank Urban into his section, but wanted to bring this to your attention as you develop your water resources section which clearly relates. Ultimately, having an integrated hydrologic model, including snow, might be useful for water resources planning for the Canning or Hulahula.

Sveta Stuefer published some interesting work out of the upper Kuparuk (funded via Arctic LCC TEON) which is different but probably not entirely unlike what might be happening in Arctic Refuge headwaters: <http://onlinelibrary.wiley.com/doi/10.1002/2017WR020567/pdf>

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

---

**From:** Matthew Sturm [mailto:[msturm1@alaska.edu](mailto:msturm1@alaska.edu)]  
**Sent:** Friday, January 05, 2018 1:06 PM  
**To:** Wendy Loya  
**Cc:** Paul Leonard; Ryan Wilson  
**Subject:** Re: Summary on snow science for Arctic Coastal Plain from phone call 1/4/18

Mostly on-track. A few minor points:

1. I suspect the accuracy using WorldView is not quite  $\pm 10$  cm...more like  $\pm 20$  cm.
2. Call but did not get a hold of Frank Urban yet.
3. In addition to outfitting an aircraft, there is a steep but manageable learning curve...or hire someone who already has this skill.
4. I am dubious that for any serious management issues it will ever be possible to get by on modeling and aerial flights alone. Ground measurements will be needed. In short, the snow depth alone is not a measure of the snow strength. That requires knowing the density, which is far more difficult problem to deal with remotely. That said, I could train a few of USFWS keen outdoors people in a few days...and you have the gear to get out in the 1002 area already in Kaktovik...or at least you did.

Matthew

On 1/5/18 10:59 AM, Wendy Loya wrote:

Hi Matthew,

Thank you again for your quick response to my inquiry about snow surveys for the 1002 area and for taking time to walk through some ideas on the phone yesterday. My summary is below:

Overall summary: Snow cover can change significantly from east to west and north to south, so measurements near one location (e.g. Kaktovik) cannot describe the entire area. FWS lacks expertise in physical sciences, but that will be critical component of facilitating exploration and development.

- 1) Wendy will check with Arctic Refuge administration on whether Frank Urban's USGS stations are still operational while Matthew will talk with Frank directly ([Update: Arctic Refuge provides some support to keep these going](#)). The ones near Camden Bay and Niguanak validated well with sonic sounder estimates of snow depth, but the Marsh Creek one is in a windy, snow scoured

location and not as representative of the surrounding landscape. A summary report of some of this work is available: <https://pubs.usgs.gov/ds/812/introduction.html>.

2) Key questions are whether the snow is thick enough for transportation and for denning bears, and this differs significantly between flat plain and gullies. Wind blows and accumulates in gullies (creating Polar Bear denning habitat), unless there is a rain on snow or freeze-thaw event that prevents snow redistribution (which could favor securing snow for winter travel with low ground pressure vehicles).

3) Structure For Motion (SFM) imaging is likely best tool for looking across coastal plain. It is basically creating a Snow Digital Elevation Model, so you measure snow surface in winter and ground surface in summer, and the difference between the two is snow depth.

Sturm, Fahnestock et al. proposed using Worldview satellite to evaluate drifts from space; was not funded by NASA this year but may have potential given imperative. Accuracy is  $\pm 10\text{cm}$ , so this would be fine for 3 meter drift detection.

From an aircraft, which FWS has and which industry contracts for FLIR detection of bears in Dec/Jan, SFM sensors could be mounted and may cost about \$10K plus significant processing time. **Aircraft SFM typically has accuracy around  $\pm 10\text{cm}$ .** Ground truthing of snow depth is needed, although might be possible to model (eventually). This would be a snowmachine transect at the time of overflight and taking readings with a sonic sounder of snow depth.

Matt is planning to fly SFM on north slope in April for other NSF project needs. It might be possible to include a 500 meter wide swath on an East-West transect on Arctic Coastal Plain, and FWS and partners could mobilize a ground truthing team.

We have a few SFM measurements already for 1002 and also Hulahula snow drifts

Expertise is needed, possibly a post-doc

4) Might be worth looking into keeping and instrumenting with climate (wind, temp, snow sensors) for the 1-2 stations of the EarthScope Transportable Array Stations that appear to be deployed in the 1002 area  
<http://www.usarray.org/alaska>.

5) Previous work by Sturm et al. included a North to South Transect of Arctic Refuge to understand snow distribution. Take-home message of that work is that wind on coastal plain likely results in lower snow depth in north. This work is in preparation for submission to journal Arctic.

Let me know if any of that looks incorrect or if you want to add new ideas. We will share these ideas next week as the FWS begins to organize teams of expertise to tackle science needs and be in touch to discuss further when you return from your snow science field trip.

Cheers,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

Dr. Matthew Sturm

Geophysical Institute

University of Alaska-Fairbanks

907-474-5257

[msturm1@alaska.edu](mailto:msturm1@alaska.edu)

--

John Trawicki

Water Resources Branch Chief

National Wildlife Refuge System, Alaska

U.S. Fish and Wildlife Service

[1011 E. Tudor Road](#)

[Anchorage, AK 99503](#)

Work: (907) 786-3474

Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken place"





**From:** [Martin, John](#)  
**To:** [Pearce, John](#)  
**Cc:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Sveinoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Sara W \(DNR\)](#); [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency, Interdisciplinary Meeting-Conference Call  
**Date:** Monday, January 8, 2018 7:38:35 AM

---

John

Thanks for sharing this news, and report. The final report will certainly be valuable resource as we move forward.

J

On Sun, Jan 7, 2018 at 9:45 PM, Pearce, John <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)> wrote:

All,

Consult w USGS



I'm happy to discuss the report further on Monday and hope that it will be useful as this group responds to the resource assessment summaries requested by DOI.

John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
4210 University Drive  
Anchorage, Alaska 99508  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

On Thu, Jan 4, 2018 at 1:22 PM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

An interagency, interdisciplinary meeting-conference call will convene at the FWS Alaska Region office on 0900-1100 Monday 8 January 2018. Apologies in advance for such short notice but I believe all are aware of the fast-paced nature

and need.

For those physically attending, we will meet in the Gordon Watson conference room (first floor); our address is 1011 East Tudor Road, Anchorage, AK.

Vidyo access is available for Service staff. For others calling in please use **65-CIP** **passcode** **65-CIP**.

Please see attachments for details. Also attached is a sign-in sheet for those that may wish to submit a scan for our record and ensure your attendance is annotated.

If you have any other questions, or I may provide additional information, please let me know.

Thanks

John

**From:** [Gibbs, Ann](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Today 9am AK: 1002 Area: Coastal erosion and lagoons  
**Date:** Tuesday, January 9, 2018 12:09:33 PM  
**Attachments:** [ofr2015-1048\\_final.pdf](#)

---

Hi Wendy -- I have attached the comprehensive report from 2015. Information specific to 1002 coast can be found on pages 25-37.  
Updated rates were released in 2017 and include additional shorelines, but we did not update the detailed report.

The update report and data can be found at the following locations.

Update report: <https://pubs.er.usgs.gov/publication/ofr20171107>  
GIS data: <https://www.sciencebase.gov/catalog/item/57e96bd2e4b09082500c91b0>

On Tue, Jan 9, 2018 at 8:19 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Let's talk at 9am AK time today:

65-CIP

Thank you!  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Jan 8, 2018, at 16:08, Gibbs, Ann <[agibbs@usgs.gov](mailto:agibbs@usgs.gov)> wrote:

Thanks Wendy - tomorrow morning may be best for us, but I will let everyone fill out the doodle poll.

On Mon, Jan 8, 2018 at 4:51 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Thanks for the email Ann, You all are on my list to contact today, so this is great as I did not catch everyone's names.

Should we set up a time to talk by phone at the earliest convenience of most of you all? I am available anytime that works for you all this week except Friday morning, but I would hope that at least a few of us could talk Tuesday or Wednesday.

I threw together a quick doodle poll to facilitate that, but if you all have calendar sharing and want to suggest a time, I can confirm and provide a teleconference

number.

<https://doodle.com/poll/55ntmkryf3g5v8mf>

I am having a hard time imaging staging and activities close to the shore. I could imagine a desire to have an ice road on the nearshore coast to access the Refuge from the west or from Kaktovik onto the coastal plain, especially given the lack of water resources for ice roads and often low snowcover, as sometimes is used between Prudhoe Bay and Utqiagvik. I'll dig into the NPRA Final EIS, Pt. Thompson EIA and BOEM's liberty Draft EIS to see what assumptions have been made that might be relevant to Arctic Refuge.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Gibbs, Ann [mailto:[agibbs@usgs.gov](mailto:agibbs@usgs.gov)]

**Sent:** Monday, January 08, 2018 3:41 PM

**To:** Wendy Loya

**Cc:** Bruce Richmond; Li Erikson; Guy Gelfenbaum

**Subject:** 1002 Area: Coastal erosion and lagoons

Hi Wendy -- Bruce, Li, and I were on the phone call this morning and I understand you are the lead on the Coastal erosion and lagoon topic. Please let us know if we can assist or provide you any information.

Bruce Richmond (Coastal geologist; [brichmond@usgs.gov](mailto:brichmond@usgs.gov))

0000006660

Li Erikson (Coastal and ocean engineer; [lerikson@usgs.gov](mailto:lerikson@usgs.gov))

Ann Gibbs (Coastal geologist; [agibbs@usgs.gov](mailto:agibbs@usgs.gov))

Guy Gelfenbaum (Center Director; [ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov))

--

Ann E. Gibbs

US Geological Survey

Pacific Coastal and Marine Science Center

[2885 Mission Street](#)

[Santa Cruz, CA](#) 95050

831-460-7540

[agibbs@usgs.gov](mailto:agibbs@usgs.gov)

--

Ann E. Gibbs

US Geological Survey

Pacific Coastal and Marine Science Center

[2885 Mission Street](#)

[Santa Cruz, CA](#) 95050

831-460-7540

[agibbs@usgs.gov](mailto:agibbs@usgs.gov)

--

Ann E. Gibbs

US Geological Survey

Pacific Coastal and Marine Science Center

2885 Mission Street

Santa Cruz, CA 95050

831-460-7540

[agibbs@usgs.gov](mailto:agibbs@usgs.gov)

**From:** [Wendy Loya](#)  
**To:** [Ann Gibbs](#)  
**Subject:** RE: Today 9am AK: 1002 Area: Coastal erosion and lagoons  
**Date:** Tuesday, January 9, 2018 12:12:10 PM

---

Thank you!

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Gibbs, Ann [mailto:[agibbs@usgs.gov](mailto:agibbs@usgs.gov)]  
**Sent:** Tuesday, January 09, 2018 10:09 AM  
**To:** Wendy Loya  
**Subject:** Re: Today 9am AK: 1002 Area: Coastal erosion and lagoons

Hi Wendy -- I have attached the comprehensive report from 2015. Information specific to 1002 coast can be found on pages 25-37.  
Updated rates were released in 2017 and include additional shorelines, but we did not update the detailed report.

The update report and data can be found at the following locations.

Update report: <https://pubs.er.usgs.gov/publication/ofr20171107>  
GIS data: <https://www.sciencebase.gov/catalog/item/57e96bd2e4b09082500c91b0>

On Tue, Jan 9, 2018 at 8:19 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Let's talk at 9am AK time today:

b5-CIF

Thank you!  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Jan 8, 2018, at 16:08, Gibbs, Ann <[agibbs@usgs.gov](mailto:agibbs@usgs.gov)> wrote:

Thanks Wendy - tomorrow morning may be best for us, but I will let everyone fill out the doodle poll.

On Mon, Jan 8, 2018 at 4:51 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Thanks for the email Ann, You all are on my list to contact today, so this is great as I did

not catch everyone's names.

Should we set up a time to talk by phone at the earliest convenience of most of you all? I am available anytime that works for you all this week except Friday morning, but I would hope that at least a few of us could talk Tuesday or Wednesday.

I threw together a quick doodle poll to facilitate that, but if you all have calendar sharing and want to suggest a time, I can confirm and provide a teleconference number.

<https://doodle.com/poll/55ntmkryf3g5v8mf>

I am having a hard time imaging staging and activities close to the shore. I could imagine a desire to have an ice road on the nearshore coast to access the Refuge from the west or from Kaktovik onto the coastal plain, especially given the lack of water resources for ice roads and often low snowcover, as sometimes is used between Prudhoe Bay and Utqiagvik. I'll dig into the NPRA Final EIS, Pt. Thompson EIA and BOEM's liberty Draft EIS to see what assumptions have been made that might be relevant to Arctic Refuge.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Gibbs, Ann [mailto:[agibbs@usgs.gov](mailto:agibbs@usgs.gov)]  
**Sent:** Monday, January 08, 2018 3:41 PM  
**To:** Wendy Loya  
**Cc:** Bruce Richmond; Li Erikson; Guy Gelfenbaum  
**Subject:** 1002 Area: Coastal erosion and lagoons

Hi Wendy -- Bruce, Li, and I were on the phone call this morning and I understand you are the lead on the Coastal erosion and lagoon topic. Please let us know if we can assist or provide you any information.

Bruce Richmond (Coastal geologist; [brichmond@usgs.gov](mailto:brichmond@usgs.gov))  
Li Erikson (Coastal and ocean engineer; [lerikson@usgs.gov](mailto:lerikson@usgs.gov))  
Ann Gibbs (Coastal geologist; [agibbs@usgs.gov](mailto:agibbs@usgs.gov))  
Guy Gelfenbaum (Center Director; [ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov))

--

Ann E. Gibbs  
US Geological Survey  
Pacific Coastal and Marine Science Center  
[2885 Mission Street](#)  
[Santa Cruz, CA](#) 95050



831-460-7540  
[agibbs@usgs.gov](mailto:agibbs@usgs.gov)

--

Ann E. Gibbs  
US Geological Survey  
Pacific Coastal and Marine Science Center  
[2885 Mission Street](#)  
[Santa Cruz, CA](#) 95050

831-460-7540  
[agibbs@usgs.gov](mailto:agibbs@usgs.gov)

--

Ann E. Gibbs  
US Geological Survey  
Pacific Coastal and Marine Science Center  
2885 Mission Street  
Santa Cruz, CA 95050

831-460-7540  
[agibbs@usgs.gov](mailto:agibbs@usgs.gov)

**From:** [Wendy Loya](#)  
**To:** [Sarena Selbo](#)  
**Subject:** RE: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 9, 2018 12:28:54 PM

---

Arctic LCC is helping with several of the sections, although with the extended deadline I think we can turn the vegetation/soils/permafrost back over to Janet Jorgensen who will return at the end of January from vacation. Paul is helping with Caribou, climate and snow and I have done a lot of the scoping on climate, snow and now coastal processes (working with USGS). These are all topics Arctic LCC has worked on in the past, except caribou, so fitting with our existing goals while also expertise gaps for FWS. ☺

Definitely glad to have the extension to Feb 16<sup>th</sup>.

Hows NCTC? Cold? Good class?

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Selbo, Sarena [mailto:[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)]  
**Sent:** Tuesday, January 09, 2018 10:24 AM  
**To:** Wendy Loya  
**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

How did this go?

----- Forwarded message -----

**From:** Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
**Date:** Tue, Jan 9, 2018 at 9:33 AM  
**Subject:** Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**To:** Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, "Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>, Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>, "Putnam, Christopher" <[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, Sarah Conn <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)>, Edward Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell <[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Greta Burkart <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>, Janet Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>, Richard Lanctot <[richard\\_lanctot@fws.gov](mailto:richard_lanctot@fws.gov)>, Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>, Angela Matz <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Randy Brown <[randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov)>, Bob Henszey <[bob\\_henszey@fws.gov](mailto:bob_henszey@fws.gov)>, Hollis Twitchell <[hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)>, Kaithryn Ott <[kaithryn\\_ott@fws.gov](mailto:kaithryn_ott@fws.gov)>, Margaret Perdue <[margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov)>, Joshua Rose <[joshua\\_rose@fws.gov](mailto:joshua_rose@fws.gov)>, John Pearce

<[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Todd Atwood <[tatwood@usgs.gov](mailto:tatwood@usgs.gov)>, Bruce Richmond <[brichmond@usgs.gov](mailto:brichmond@usgs.gov)>, Li Erikson <[lerikson@usgs.gov](mailto:lerikson@usgs.gov)>, Ann Gibbs <[agibbs@usgs.gov](mailto:agibbs@usgs.gov)>, Guy Gelfenbaum <[ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov)>, Heather Johnson <[heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)>, Frank Urban <[urban@usgs.gov](mailto:urban@usgs.gov)>, Robert Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stacie McIntosh <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>, "Nichelle (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Eric Geisler <[egeisler@blm.gov](mailto:egeisler@blm.gov)>, David Payer <[david.payer@nps.gov](mailto:david.payer@nps.gov)>, "Sara W (DNR)" <[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>  
Cc: Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem <[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete,

supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.
2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).
3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.
4. The 7 volumes of the NPRA EIS may be located at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>
5. The 2015 Arctic Refuge CCP may be located at <https://www.fws.gov/home/arctic-ccp>  
The ROD is attached.

--

Sarena M. Selbo  
Assistant Regional Director  
Science Applications - Alaska Region  
U.S. Fish and Wildlife Service  
1011 East Tudor Road  
Anchorage, Alaska 99503  
907-786-3380

**From:** [Arthur, Stephen](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Any info from Janet about 1002 vegetation/landscape studies needed?  
**Date:** Tuesday, January 9, 2018 12:58:00 PM  
**Attachments:** [Impacts of seismic exploration on the 1002 Area.docx](#)

---

Hi Wendy,

We have discussed information needs informally, so I do have some idea of Janet's major concerns. You probably are aware of her long term assessment of vegetation impacts of seismic trails created during the 1980s. Janet has been strongly urging that we revisit those plots again to obtain another set of data now that its been 15 years since the last surveys were made. I'll attach a study plan she prepared last month. She also has concerns about effects of winter travel on the relatively dry rolling tundra of the western 1002 area (more subject to scarring because of less ice content and probably less snow cover). This area is quite different geographically than the area around Prudhoe Bay and Kuparuk, so experiences there may not be a good guide for what we can expect in the 1002.

I am also concerned about effects of large-scale seismic exploration on short term growth of important caribou food plants (especially Eriophorum). I say this based on observing the brown tundra left behind by delayed melting of ice roads and winter trails in the existing oil fields to the west. In many areas, these trails basically eliminate an entire season of growth for caribou forage plants, even if the area recovers by the following year. In the 1002 area, where there is much less coastal plain available, it seems like this could have a measurable affect on food available to caribou during the calving and post calving periods (depending on how widespread these trails turn out to be).

I'd be happy to discuss these ideas further, or any other thoughts you have about the vegetation issues.

Steve

Stephen M. Arthur, Ph.D.  
*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
101 12th Ave., Room 236  
Fairbanks, AK 99701  
(907)455-1830*

On Mon, Jan 8, 2018 at 4:15 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Steve A , Greta, Chris, and Steve B

I wanted to check in with you and see if Janet has shared any of her thoughts about studies that she would like to see done with regards to vegetation or other terrestrial ecology associated with advancing exploration and development of the 1002 area?

My initial thoughts are that for the summer following winter exploration activities (e.g.

seismic), the Refuge would want to follow up with some vegetation surveys to observe whether there had been adequate snowcover to protect vegetation and soils where low-ground pressure vehicles are used and similarly where any ice pads or other staging might have occurred. I'll look to her 2010 publication to flesh that out and identify science gaps that could have helped mitigate damage observed

Just a couple of FYI's:

Arctic LCC supported development of an updated landform map for the wetlands of the entire Arctic Coastal Plain (although the 1002 area covers more than the lowland wetland types that were the focus). This work was done as part of an effort to describe thermokarst potential and model future active layer depths and thus landform transformation. I'll attach a poster (Lara ACP Mapping Presentation) that describes this work and Paul has the GIS data produced.

We also have a report by Torre Jorgensen on Permafrost mapping for the north slope and while not at a scale for industrial applications, that will be useful for the soils and permafrost assessment. It is not a huge file, so I will also attach it in case it can help with any hydrology or habitat descriptions you all may be working on.

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** [Paul Leonard](#)  
**To:** [Wendy Loya](#)  
**Subject:** Fwd: Caribou group  
**Date:** Tuesday, January 9, 2018 1:00:09 PM

---

Here is the latest chain on Caribou

Paul Leonard, PhD  
Science Coordinator  
Arctic Landscape Conservation Cooperative  
101 12th Ave. Room 216  
Fairbanks, AK 99709  
(907) 456-0445

Begin forwarded message:

**From:** "Johnson, Heather" <[heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)>  
**Date:** January 9, 2018 at 2:04:04 PM EST  
**To:** "Leonard, Paul" <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>  
**Cc:** "Arthur, Stephen" <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>  
**Subject:** Re: Caribou group

Hi Steve,

With respect to understanding how development may influence the Porcupine Caribou herd, I'd also suggest that it may be useful to examine the long-term behavioral impacts of development on the Central Arctic herd. Although the comparison isn't perfect (given major differences in coastal plain habitat), it may be useful to quantify habitat areas "indirectly" lost during key times of year (i.e., calving). For example, if CAH caribou are still avoiding well pads/roads by "X" km, the spatial distribution of development in 1002 could really influence how much habitat is unused at different times. This is an analysis that I'm aiming to do within the year, and have gotten datasharing agreements with Conoco Phillips/BP to conduct using their infrastructure data.

I'd also suggest that evaluating the effectiveness of existing mitigation measures (pipeline heights, distances between roads/pipelines, etc) for facilitating movement through the oil fields would be useful for informing future development in the 1002. No recent studies have evaluated the long-term effectiveness of those measures, so it's hard to know how future development should be implemented. Several agencies have expressed interest in this question and I've discussed it with Conoco and BP, but they are pretty hesitant to want to share detailed infrastructure data (i.e., pipeline heights). Given the importance of the question, we will continue to push on this. Depending on how valuable you think this information is, we can push a lot harder.

In terms of understanding the value of the coastal plain to Porcupine caribou, I think it's important to really dive into how caribou are using summer habitat, and how that use confers individual fitness (i.e., measures like body condition and reproductive success). We know so little about how caribou what caribou are actually selecting, how that changes over time in relation to variation in forage quality, and how forage conditions are likely to shift in the future. Without an understanding of those aspects, it's hard to know how important the 1002 area is, or what the consequences of development are likely to be. In the near-term, I'm wondering if there is enough individual GPS collar data, and maybe reproductive data, to start getting at those questions, i.e., estimating how use of different summering areas may confer reproductive success in the subsequent year.

I'm just finishing a draft manuscript that looks at forage conditions within the CAH, and examines at the influence of spring phenology (NDVI) on forage N (as earlier springs lead to early peak forage N, and subsequently lower forage N later in the season when it's probably important for caribou to store protein). Of the forage plots in the Brooks Range, foothills, and coastal plain, forage N was highest during most of the summer on the coastal plain, coinciding with where the CAH caribou are located. I think a study that evaluates forage conditions and how they vary across the landscape in accordance with caribou selection would be really powerful for understanding current behaviors/population trends, and for being able to better predict future trends.

I'd also guess that the long-term monitoring data could be used to develop an integrated population model, where you could test some hypotheses about what may be driving key demographic processes. For example, what are the relative influences of summer versus winter conditions for predicting annual variation in fecundity or recruitment rates? I've found that squeezing the existing monitoring data with these kinds of models is really helpful for identifying key demographic rates or ecological mechanisms to focus on for future field studies. I've been looking at options for building this kind of model for the CAH, and know that the PCH has similar data types.

Sorry – this isn't a very good bulleted list (!), but these are have been some of the ideas I've been thinking about to address information gaps.

Let me know how else I can be helpful. I'm sending out the first draft of that forage manuscript to my coauthors next week, and will be able to send you a draft after I've gotten their feedback.



Sincerely, Heather

On Tue, Jan 9, 2018 at 9:09 AM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
Hey Steve,

Great start with capturing a lot of these ideas. Without the template its still a bit unclear to me how to focus some of these in regards to potential development stages (e.g., seismic exploration vs. development).

I'm assuming there is a need to develop some resource selection functions and possibly quantify potential disturbance coefficients. I can see these fitting into a couple of your points here (3,5) in the short term. How those impact demography might be a longer term goal?

I think reaching out to Porcupine Tech. Committee is a good idea. I had reached out to Don Russell (Yukon College) to ask specifically about your point 5 and am awaiting a response.

Cheers,  
Paul

On Mon, Jan 8, 2018 at 12:54 PM, Arthur, Stephen <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)> wrote:

Paul and Heather,

Thanks for volunteering to help with the caribou group. I haven't received the template for this yet, but I'm assuming from today's discussion that they are looking for something like a bulleted list of issues, or research topics that would provide information necessary for effective management/mitigation of development with regard to its effects on caribou. With that in mind, I came up with the following list:

1. Drivers of calving site selection (climate, predators, food, disturbance);
2. Effects of calving site characteristics on calf production, survival, & growth;
3. Post-calving (summer) distribution in relation to weather, insect activity, and forage quality/availability (micro habitat scale);
4. Monitor body condition and survival relative to herd size (to predict population peak and subsequent decline);
5. Quantify seasonal distributions and movements; assess potential effects on demographics (winter vs. summer range quality, etc.).

There are many other aspects of caribou ecology that could qualify, but this was my first shot at a list of high-priority topics. I'd be interested to hear your ideas. I plan to query the Porcupine Caribou Tech. Committee members for

their thoughts, but let me know if there are others who should also be contacted.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
[101 12th Ave., Room 236](#)  
[Fairbanks, AK 99701](#)  
(907)455-1830*

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
[101 12th Ave. Room 216](#)  
[Fairbanks, AK 99701](#)  
(907) 456-0445

--

Heather Johnson, Ph.D.  
Research Wildlife Biologist  
USGS Alaska Science Center  
4210 University Drive  
Anchorage, Alaska 99508  
Phone: 907.786.7155  
Email: [heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** FW: Any info from Janet about 1002 vegetation/landscape studies needed?  
**Date:** Tuesday, January 9, 2018 1:01:22 PM  
**Attachments:** [Impacts of seismic exploration on the 1002 Area.docx](#)

---

FYI, just in from Steve A in response to email from yesterday.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Arthur, Stephen [mailto:[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)]  
**Sent:** Tuesday, January 09, 2018 10:57 AM  
**To:** Wendy Loya  
**Subject:** Re: Any info from Janet about 1002 vegetation/landscape studies needed?

Hi Wendy,

We have discussed information needs informally, so I do have some idea of Janet's major concerns. You probably are aware of her long term assessment of vegetation impacts of seismic trails created during the 1980s. Janet has been strongly urging that we revisit those plots again to obtain another set of data now that its been 15 years since the last surveys were made. I'll attach a study plan she prepared last month. She also has concerns about effects of winter travel on the relatively dry rolling tundra of the western 1002 area (more subject to scarring because of less ice content and probably less snow cover). This area is quite different geographically than the area around Prudhoe Bay and Kuparuk, so experiences there may not be a good guide for what we can expect in the 1002.

I am also concerned about effects of large-scale seismic exploration on short term growth of important caribou food plants (especially Eriophorum). I say this based on observing the brown tundra left behind by delayed melting of ice roads and winter trails in the existing oil fields to the west. In many areas, these trails basically eliminate an entire season of growth for caribou forage plants, even if the area recovers by the following year. In the 1002 area, where there is much less coastal plain available, it seems like this could have a measurable affect on food available to caribou during the calving and post calving periods (depending on how widespread these trails turn out to be).

I'd be happy to discuss these ideas further, or any other thoughts you have about the vegetation issues.

Steve

Stephen M. Arthur, Ph.D.  
*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
101 12th Ave., Room 236  
Fairbanks, AK 99701  
(907)455-1830*

On Mon, Jan 8, 2018 at 4:15 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Hi Steve A , Greta, Chris, and Steve B

I wanted to check in with you and see if Janet has shared any of her thoughts about studies that she would like to see done with regards to vegetation or other terrestrial ecology associated with advancing exploration and development of the 1002 area?

My initial thoughts are that for the summer following winter exploration activities (e.g. seismic), the Refuge would want to follow up with some vegetation surveys to observe whether there had been adequate snowcover to protect vegetation and soils where low-ground pressure vehicles are used and similarly where any ice pads or other staging might have occurred. I'll look to her 2010 publication to flesh that out and identify science gaps that could have helped mitigate damage observed

Just a couple of FYI's:

Arctic LCC supported development of an updated landform map for the wetlands of the entire Arctic Coastal Plain (although the 1002 area covers more than the lowland wetland types that were the focus). This work was done as part of an effort to describe thermokarst potential and model future active layer depths and thus landform transformation. I'll attach a poster (Lara ACP Mapping Presentation) that describes this work and Paul has the GIS data produced.

We also have a report by Torre Jorgensen on Permafrost mapping for the north slope and while not at a scale for industrial applications, that will be useful for the soils and permafrost assessment. It is not a huge file, so I will also attach it in case it can help with any hydrology or habitat descriptions you all may be working on.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Wendy Loya](#)  
**To:** [Ryan Wilson](#)  
**Subject:** not polar bears  
**Date:** Tuesday, January 9, 2018 1:53:19 PM

---

FYI, would be good to get your perspective on this conversation. My thoughts is that this is where we started when you started at TWS, but the reality and pieces helped us focus in on RSF, Development impacts and migration. I believe Heather has population modeling expertise, so maybe she can get there and that would be great!

W

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Paul Leonard [mailto:[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)]  
**Sent:** Tuesday, January 09, 2018 11:00 AM  
**To:** Wendy Loya  
**Subject:** Fwd: Caribou group

Here is the latest chain on Caribou

Paul Leonard, PhD  
Science Coordinator  
Arctic Landscape Conservation Cooperative  
101 12th Ave. Room 216  
Fairbanks, AK 99709  
(907) 456-0445

Begin forwarded message:

**From:** "Johnson, Heather" <[heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)>  
**Date:** January 9, 2018 at 2:04:04 PM EST  
**To:** "Leonard, Paul" <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>  
**Cc:** "Arthur, Stephen" <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>  
**Subject:** Re: Caribou group

Hi Steve,

With respect to understanding how development may influence the Porcupine Caribou herd, I'd also suggest that it may be useful to examine the long-term behavioral impacts of development on the Central Arctic herd. Although the comparison isn't perfect (given major differences in coastal plain habitat), it may be useful to quantify habitat areas "indirectly" lost during key times of year (i.e., calving). For example, if CAH caribou are still avoiding well pads/roads by "X" km, the spatial distribution of development in 1002 could really influence how much habitat is unused at different times. This is an analysis that I'm aiming to do

within the year, and have gotten datasharing agreements with Conoco Phillips/BP to conduct using their infrastructure data.

I'd also suggest that evaluating the effectiveness of existing mitigation measures (pipeline heights, distances between roads/pipelines, etc) for facilitating movement through the oil fields would be useful for informing future development in the 1002. No recent studies have evaluated the long-term effectiveness of those measures, so it's hard to know how future development should be implemented. Several agencies have expressed interest in this question and I've discussed it with Conoco and BP, but they are pretty hesitant to want to share detailed infrastructure data (i.e., pipeline heights). Given the importance of the question, we will continue to push on this. Depending on how valuable you think this information is, we can push a lot harder.

In terms of understanding the value of the coastal plain to Porcupine caribou, I think it's important to really dive into how caribou are using summer habitat, and how that use confers individual fitness (i.e., measures like body condition and reproductive success). We know so little about how caribou what caribou are actually selecting, how that changes over time in relation to variation in forage quality, and how forage conditions are likely to shift in the future. Without an understanding of those aspects, it's hard to know how important the 1002 area is, or what the consequences of development are likely to be. In the near-term, I'm wondering if there is enough individual GPS collar data, and maybe reproductive data, to start getting at those questions, i.e., estimating how use of different summering areas may confer reproductive success in the subsequent year.

I'm just finishing a draft manuscript that looks at forage conditions within the CAH, and examines at the influence of spring phenology (NDVI) on forage N (as earlier springs lead to early peak forage N, and subsequently lower forage N later in the season when it's probably important for caribou to store protein). Of the forage plots in the Brooks Range, foothills, and coastal plain, forage N was highest during most of the summer on the coastal plain, coinciding with where the CAH caribou are located. I think a study that evaluates forage conditions and how they vary across the landscape in accordance with caribou selection would be really powerful for understanding current behaviors/population trends, and for being able to better predict future trends.

I'd also guess that the long-term monitoring data could be used to develop an integrated population model, where you could test some hypotheses about what may be driving key demographic processes. For example, what are the relative influences of summer versus winter conditions for predicting annual variation in fecundity or recruitment rates? I've found that squeezing the existing monitoring data with these kinds of models is really helpful for identifying key demographic rates or ecological mechanisms to focus on for future field studies. I've been looking at options for building this kind of model for the CAH, and know that the PCH has similar data types.

Sorry – this isn't a very good bulleted list (!), but these are have been some of the ideas I've been thinking about to address information gaps.

Let me know how else I can be helpful. I'm sending out the first draft of that forage manuscript to my coauthors next week, and will be able to send you a draft after I've gotten their feedback.

Sincerely, Heather

On Tue, Jan 9, 2018 at 9:09 AM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
Hey Steve,

Great start with capturing a lot of these ideas. Without the template its still a bit unclear to me how to focus some of these in regards to potential development stages (e.g., seismic exploration vs. development).

I'm assuming there is a need to develop some resource selection functions and possibly quantify potential disturbance coefficients. I can see these fitting into a couple of your points here (3,5) in the short term. How those impact demography might be a longer term goal?

I think reaching out to Porcupine Tech. Committee is a good idea. I had reached out to Don Russell (Yukon College) to ask specifically about your point 5 and am awaiting a response.

Cheers,  
Paul

On Mon, Jan 8, 2018 at 12:54 PM, Arthur, Stephen <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)> wrote:  
Paul and Heather,

Thanks for volunteering to help with the caribou group. I haven't received the template for this yet, but I'm assuming from today's discussion that they are looking for something like a bulleted list of issues, or research topics that would provide information necessary for effective management/mitigation of development with regard to its effects on caribou. With that in mind, I came up with the following list:

1. Drivers of calving site selection (climate, predators, food, disturbance);
2. Effects of calving site characteristics on calf production, survival, & growth;
3. Post-calving (summer) distribution in relation to weather, insect activity, and forage quality/availability (micro habitat scale);
4. Monitor body condition and survival relative to herd size (to predict population peak and subsequent decline);
5. Quantify seasonal distributions and movements; assess potential effects on demographics (winter vs. summer range quality, etc.).

There are many other aspects of caribou ecology that could qualify, but this was

my first shot at a list of high-priority topics. I'd be interested to hear your ideas. I plan to query the Porcupine Caribou Tech. Committee members for their thoughts, but let me know if there are others who should also be contacted.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist*  
*Arctic National Wildlife Refuge*  
[101 12th Ave., Room 236](#)  
[Fairbanks, AK 99701](#)  
(907)455-1830

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
[101 12th Ave. Room 216](#)  
[Fairbanks, AK 99701](#)  
(907) 456-0445

--

Heather Johnson, Ph.D.  
Research Wildlife Biologist  
USGS Alaska Science Center  
4210 University Drive  
Anchorage, Alaska 99508  
Phone: 907.786.7155  
Email: [heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)



**From:** [Henszey, Bob](#)  
**To:** [Martin, John](#)  
**Cc:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [David Payer](#); [Sara W \(DNR\)](#); [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#); [Louise Smith](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 9, 2018 3:04:00 PM  
**Attachments:** [PtThomsonRODOct2012.pdf](#)

---

All,

The Point Thomson EIS is probably a better rough model for a 1002 EIS than the Draft Liberty Island EIS currently working its way through the approval process. ARLIS has a copy of the Point Thomson EIS found at the link below, and I've attached the Record of Decision (ROD) for the EIS.

Bob

ARLIS (<http://www.arlis.org/thepipefiles/Record/1479758>) has the EIS.

---

Robert J. Henszey, Ph.D.  
Branch Chief  
Planning and Consultation  
US Fish & Wildlife Service  
101 12th Avenue, Room 110  
Fairbanks, AK 99701  
Phone: 907-456-0323, Fax: 907-456-0208  
[Bob\\_Henszey@fws.gov](mailto:Bob_Henszey@fws.gov)

*"Water Always Wins," Dr. Who 2009.11.15*

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.
2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).
3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.
4. The 7 volumes of the NPRA EIS may be located at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>
5. The 2015 Arctic Refuge CCP may be located at <https://www.fws.gov/home/arctic-ccp>

The ROD is attached.

**From:** [Martin, John](#)  
**To:** [Henszey, Bob](#)  
**Cc:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [David Payer](#); [Sara W \(DNR\)](#); [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#); [Louise Smith](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 9, 2018 3:12:29 PM

---

Bob

Thanks for sharing this information.

John

On Tue, Jan 9, 2018 at 1:03 PM, Henszey, Bob <[bob\\_henszey@fws.gov](mailto:bob_henszey@fws.gov)> wrote:

All,

The Point Thomson EIS is probably a better rough model for a 1002 EIS than the Draft Liberty Island EIS currently working its way through the approval process. ARLIS has a copy of the Point Thomson EIS found at the link below, and I've attached the Record of Decision (ROD) for the EIS.

Bob

ARLIS (<http://www.arlis.org/thepipefiles/Record/1479758>) has the EIS.

---

Robert J. Henszey, Ph.D.  
Branch Chief  
Planning and Consultation  
US Fish & Wildlife Service  
101 12th Avenue, Room 110  
Fairbanks, AK 99701  
Phone: 907-456-0323, Fax: 907-456-0208  
[Bob\\_Henszey@fws.gov](mailto:Bob_Henszey@fws.gov)

*"Water Always Wins," Dr. Who 2009.11.15*

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented

yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.

2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).

3. A scan or web address of the Liberty Project EIS could not be located and

hopefully someone else could provide that.

4. The 7 volumes of the NPRA EIS may be located at  
<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>

5. The 2015 Arctic Refuge CCP may be located at  
<https://www.fws.gov/home/arctic-ccp>  
The ROD is attached.

**From:** [Miller, Mark](#)  
**To:** [Wendy M. Loya, PhD](#)  
**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 9, 2018 3:23:01 PM  
**Attachments:** [PtThomsonRODOct2012.pdf](#)

---

Thanks for poking me on the noise topic. On reflection, I do think that I should suggest noise or acoustical environment as an explicit topic after all, given its prominence as a factor that is perceived to impact subsistence resources and activities in NPRA. May I ask you to assist me in identifying an appropriate FWS colleague who might join me in working on this?

m

---

Mark E. Miller, PhD | Deputy Director  
North Slope Science Initiative | <http://www.NorthSlopeScience.org>  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

----- Forwarded message -----

From: **Henszey, Bob** <[bob\\_henszey@fws.gov](mailto:bob_henszey@fws.gov)>  
Date: Tue, Jan 9, 2018 at 1:03 PM  
Subject: Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
To: "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
Cc: Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, "Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>, Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>, "Putnam, Christopher" <[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, Sarah Conn <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)>, Edward Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell <[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Greta Burkart <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>, Janet Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>, Richard Lanctot <[richard\\_lanctot@fws.gov](mailto:richard_lanctot@fws.gov)>, Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>, Angela Matz <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Randy Brown <[randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov)>, Hollis Twitchell <[hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)>, Kaithryn Ott <[kaithryn\\_ott@fws.gov](mailto:kaithryn_ott@fws.gov)>, Margaret Perdue <[margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov)>, Joshua Rose <[joshua\\_rose@fws.gov](mailto:joshua_rose@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Todd Atwood <[tatwood@usgs.gov](mailto:tatwood@usgs.gov)>, Bruce Richmond <[brichmond@usgs.gov](mailto:brichmond@usgs.gov)>, Li Erikson <[lerikson@usgs.gov](mailto:lerikson@usgs.gov)>, Ann Gibbs <[agibbs@usgs.gov](mailto:agibbs@usgs.gov)>, Guy Gelfenbaum <[ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov)>, Heather Johnson <[heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)>, Frank Urban <[furban@usgs.gov](mailto:furban@usgs.gov)>, Robert Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stacie McIntosh <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>, "Nichelle (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Eric Geisler <[egeisler@blm.gov](mailto:egeisler@blm.gov)>, David Payer

0000006686

<[david.payer@nps.gov](mailto:david.payer@nps.gov)>, "Sara W (DNR)" <[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>, Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem <[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>, Louise Smith <[Louise\\_Smith@fws.gov](mailto:Louise_Smith@fws.gov)>

All,

The Point Thomson EIS is probably a better rough model for a 1002 EIS than the Draft Liberty Island EIS currently working its way through the approval process. ARLIS has a copy of the Point Thomson EIS found at the link below, and I've attached the Record of Decision (ROD) for the EIS.

Bob

ARLIS (<http://www.arlis.org/thepipefiles/Record/1479758>) has the EIS.

---

Robert J. Henszey, Ph.D.  
Branch Chief  
Planning and Consultation  
US Fish & Wildlife Service  
101 12th Avenue, Room 110  
Fairbanks, AK 99701  
Phone: 907-456-0323, Fax: 907-456-0208  
[Bob\\_Henszey@fws.gov](mailto:Bob_Henszey@fws.gov)

*"Water Always Wins," Dr. Who 2009.11.15*

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for



some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.
2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).
3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.
4. The 7 volumes of the NPRA EIS may be located at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>
5. The 2015 Arctic Refuge CCP may be located at <https://www.fws.gov/home/arctic-ccp>  
The ROD is attached.

**From:** [Fischbach, Tracy](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Mark Miller](#); [John Martin](#); [Steve Berendzen](#); [Stephen Arthur](#); [Paul Leonard](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 9, 2018 3:57:23 PM

---

That sounds like a good plan. Noise will definitely be an issue. I do not think we have any FWS expertise in the region for this issue.

-Tracy

Tracyann S Fischbach  
Natural Resources Planner  
National Wildlife Refuge System - Region 7  
Division of Natural Resources & Conservation Planning  
(907) 786-3369

Hours: Mon - Thurs 9:15 am to 3:15 pm  
"Getting right down and smelling the fresh soil is good for any one." - from the 1913 Handbook for Girl Scouts by W. J. Hoxie

**Need access to Refuge Documents?**

[Online Document Database \(ServCat\)](#)

**Need Refuge land status info for Alaska?**

[FWS Region 7 Land Mapper \(FWS version\)](#)

[FWS Region 7 Land Mapper \(Public version\)](#)

[Region 7 GeoPDF Map Portal](#)

On Tue, Jan 9, 2018 at 1:48 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

John, Tracy, Steve and Steve,

Mark Miller, the Deputy Director for the North Slope Science Initiative, has experience in identifying noise and acoustical environment issues from recent work in NPRA. Given the potential proximity of exploration and development activities to Kaktovik and for potential disturbance to wildlife, this does seem like a topic of importance for FWS to consider for the 1002 area. Do we have any staff with expertise in this area regionally for Mark to collaborate/consult with?

If not, probably the best course of action is for Tracy and Mark to touch base since Tracy is handling most of the human dimensions work. Filling out the template to identify decisions that will need to be made that involve an understanding of noise disturbance and the science needed to make those could certainly be built of knowledge and expertise from NPRA and also looking to the Pt Thompson EIS.

I'll add in that NSSI also has a technical working group to address aircraft disturbance, especially to hunters. This has been one of the primary complaints from Nuiqsut (which is a staging location for science to support development and central to development and operations activities at Alpine and NPRA, and which BLM and Industry have partnered to try to address.

Alternative suggestions or confirmation that this is a reasonable approach?

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]

**Sent:** Tuesday, January 09, 2018 1:23 PM

**To:** Wendy M. Loya, PhD

**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

Thanks for poking me on the noise topic. On reflection, I do think that I should suggest noise or acoustical environment as an explicit topic after all, given its prominence as a factor that is perceived to impact subsistence resources and activities in NPRA. May I ask you to assist me in identifying an appropriate FWS colleague who might join me in working on this?

m

---

Mark E. Miller, PhD | Deputy Director

North Slope Science Initiative | <http://www.NorthSlopeScience.org>

Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427

c/o Bureau of Land Management | Alaska State Office | State Director's Office

0000006690

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

----- Forwarded message -----

From: **Henszey, Bob** <[bob\\_henszey@fws.gov](mailto:bob_henszey@fws.gov)>

Date: Tue, Jan 9, 2018 at 1:03 PM

Subject: Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

To: "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

Cc: Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, "Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>, Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>, "Putnam, Christopher" <[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, Sarah Conn <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)>, Edward Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell <[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Greta Burkart <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>, Janet Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>, Richard Lanctot <[richard\\_lanctot@fws.gov](mailto:richard_lanctot@fws.gov)>, Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>, Angela Matz <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Randy Brown <[randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov)>, Hollis Twitchell <[hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)>, Kaithryn Ott <[kaithryn\\_ott@fws.gov](mailto:kaithryn_ott@fws.gov)>, Margaret Perdue <[margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov)>, Joshua Rose <[joshua\\_rose@fws.gov](mailto:joshua_rose@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Todd Atwood <[tatwood@usgs.gov](mailto:tatwood@usgs.gov)>, Bruce Richmond <[brichmond@usgs.gov](mailto:brichmond@usgs.gov)>, Li Erikson <[lerikson@usgs.gov](mailto:lerikson@usgs.gov)>, Ann Gibbs <[agibbs@usgs.gov](mailto:agibbs@usgs.gov)>, Guy Gelfenbaum <[ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov)>, Heather Johnson <[heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)>, Frank Urban <[furban@usgs.gov](mailto:furban@usgs.gov)>, Robert Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stacie McIntosh <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>, "Nichelle (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Eric Geisler <[egeisler@blm.gov](mailto:egeisler@blm.gov)>, David Payer <[david.payer@nps.gov](mailto:david.payer@nps.gov)>, "Sara W (DNR)" <[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>, Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem <[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>, Louise Smith <[Louise\\_Smith@fws.gov](mailto:Louise_Smith@fws.gov)>

All,

The Point Thomson EIS is probably a better rough model for a 1002 EIS than the Draft Liberty Island EIS currently working its way through the approval process. ARLIS has a copy of the Point Thomson EIS found at the link below, and I've attached the Record of Decision (ROD) for the EIS.

Bob

ARLIS (<http://www.arlis.org/thepipefiles/Record/1479758>) has the EIS.

---

Robert J. Henszey, Ph.D.

Branch Chief

Planning and Consultation

US Fish & Wildlife Service

[101 12th Avenue, Room 110](#)

[Fairbanks, AK 99701](#)

Phone: 907-456-0323, Fax: 907-456-0208

[Bob\\_Henszey@fws.gov](mailto:Bob_Henszey@fws.gov)

*"Water Always Wins," Dr. Who 2009.11.15*

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out.

Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.

2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).

3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.

4. The 7 volumes of the NPRA EIS may be located at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>

5. The 2015 Arctic Refuge CCP may be located at <https://www.fws.gov/home/arctic-ccp>

The ROD is attached.

**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Sveinoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [David Payer](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#)  
**Subject:** Coastal Plain 1002 Area Needs Assessment Reporting Template  
**Date:** Tuesday, January 9, 2018 4:02:11 PM

---

All

For clarification, the reporting template is below. It is the last page of the resource assessment request attachment in the previous email, i.e., with **Please Read Carefully** in red type.

Thanks.

John

## REPORTING TEMPLATE

### > **Discipline/Subject Area:**

> **Lead facilitator** (name and contact information): [please note this does not imply a permanent assignment, just that you are facilitating the needs assessment with deadline of 15 Jan 2018]

> **Individuals contacted** (or who needs to be contacted if unavailable): [may include individuals, teams, institutions or organizations, e.g., Climate Science Centers]

> **What do we need to know and why regarding subjects?** [i.e., what decisions or determinations are required; what are the conservation threats; address what we know about the resources in the area - distribution, abundance, seasonal movements; how they may be impacted by oil and gas development; what mitigation measures available and their effectiveness, subsistence activities?]

> **What information is currently available to address the information needs for subjects?** [include citations – may want to refer to pending USGS annotated literature review?]

> **What are key information gaps?**

> **What studies/surveys need to be conducted to fill those information gaps?** Please include duration (start and end), staffing and cost estimates.



**From:** [Svejnoha, Wayne](#)  
**To:** [Henszey, Bob](#)  
**Cc:** [Martin, John](#); [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [David Payer](#); [Sara W \(DNR\)](#); [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#); [Louise Smith](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 9, 2018 4:25:21 PM

---

None of these EIS's referenced are leasing documents. Reference to the NPRA IAP is more appropriate for comparison of leasing level analysis of when BLM develops a reasonable and foreseeable development scenario. We will need baseline resource information to determine a range of impacts. From that, we will develop and incorporate resource protective lease stipulations or best management practices and operating procedures to insure responsible exploration and development.

Wayne

On Tue, Jan 9, 2018 at 1:03 PM, Henszey, Bob <[bob\\_henszey@fws.gov](mailto:bob_henszey@fws.gov)> wrote:

All,

The Point Thomson EIS is probably a better rough model for a 1002 EIS than the Draft Liberty Island EIS currently working its way through the approval process. ARLIS has a copy of the Point Thomson EIS found at the link below, and I've attached the Record of Decision (ROD) for the EIS.

Bob

ARLIS (<http://www.arlis.org/thepipefiles/Record/1479758>) has the EIS.

---

Robert J. Henszey, Ph.D.  
Branch Chief  
Planning and Consultation  
US Fish & Wildlife Service  
101 12th Avenue, Room 110  
Fairbanks, AK 99701  
Phone: 907-456-0323, Fax: 907-456-0208  
[Bob\\_Henszey@fws.gov](mailto:Bob_Henszey@fws.gov)

*"Water Always Wins," Dr. Who 2009.11.15*

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.

2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).
3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.
4. The 7 volumes of the NPRA EIS may be located at  
<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>
5. The 2015 Arctic Refuge CCP may be located at  
<https://www.fws.gov/home/arctic-ccp>  
The ROD is attached.

--

Wayne M Svejnoha  
Alaska State Office  
Branch Chief, Energy and Minerals  
(907) 271-4407

**From:** [Wendy Loya](#)  
**To:** [Stephen Arthur](#)  
**Cc:** [Paul Leonard](#)  
**Subject:** RE: Any info from Janet about 1002 vegetation/landscape studies needed?  
**Date:** Tuesday, January 9, 2018 5:48:32 PM  
**Attachments:** [wilson Tesh summer habitat Plosone 2012.PDF](#)

---

Hi Steve,

Thanks for the reply on my inquiry about Janet's thoughts on vegetation. Given that our deadline was extended to February 16<sup>th</sup>, I think that means that Janet (and Torre) will be back at the end of the month to contribute to the sections on vegetation, permafrost and soils. I will make a first draft of the types of decisions to be made with relation to these topics based off of possible exploration and development activities and get your feedback, and then we can work with Janet to capture her thoughts on information needs and complete the task at the beginning of February if she is available.

It is good to know your observations about seismic impacts on vegetation quality for caribou foraging. Paul and I have talked about the need to do a habitat selection analyses for the Porcupine herd to identify what habitats the herd uses when. See the attached paper from Ryan Wilson and Alex Prichard at ABR for the Teshekpuk herd as an example. That is really the first level analyses that can be done with existing collar data and it works well with the assumptions that might go into a displacement model.

I didn't grasp how extremely different the ACP for 1002 is compared to lands to the west until really looking at the maps this week. Whereas there are 4,500 lakes in just the Fish Creek/Judy Creek watershed just inside NPRA, John Trawicki noted that there were I think 156 for the Refuge coastal plain. So activities will look quite a bit different, and ensuring there is adequate snow cover to protect Eriophorum tussocks, especially for the calving grounds. will be important for the reasons you mentioned.

More soon!  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Arthur, Stephen [mailto:[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)]  
**Sent:** Tuesday, January 09, 2018 10:57 AM  
**To:** Wendy Loya  
**Subject:** Re: Any info from Janet about 1002 vegetation/landscape studies needed?

Hi Wendy,

We have discussed information needs informally, so I do have some idea of Janet's major concerns. You probably are aware of her long term assessment of vegetation impacts of

seismic trails created during the 1980s. Janet has been strongly urging that we revisit those plots again to obtain another set of data now that its been 15 years since the last surveys were made. I'll attach a study plan she prepared last month. She also has concerns about effects of winter travel on the relatively dry rolling tundra of the western 1002 area (more subject to scarring because of less ice content and probably less snow cover). This area is quite different geographically than the area around Prudhoe Bay and Kuparuk, so experiences there may not be a good guide for what we can expect in the 1002.

I am also concerned about effects of large-scale seismic exploration on short term growth of important caribou food plants (especially Eriophorum). I say this based on observing the brown tundra left behind by delayed melting of ice roads and winter trails in the existing oil fields to the west. In many areas, these trails basically eliminate an entire season of growth for caribou forage plants, even if the area recovers by the following year. In the 1002 area, where there is much less coastal plain available, it seems like this could have a measurable affect on food available to caribou during the calving and post calving periods (depending on how widespread these trails turn out to be).

I'd be happy to discuss these ideas further, or any other thoughts you have about the vegetation issues.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
101 12th Ave., Room 236  
Fairbanks, AK 99701  
(907)455-1830*

On Mon, Jan 8, 2018 at 4:15 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Hi Steve A , Greta, Chris, and Steve B

I wanted to check in with you and see if Janet has shared any of her thoughts about studies that she would like to see done with regards to vegetation or other terrestrial ecology associated with advancing exploration and development of the 1002 area?

My initial thoughts are that for the summer following winter exploration activities (e.g. seismic), the Refuge would want to follow up with some vegetation surveys to observe whether there had been adequate snowcover to protect vegetation and soils where low-ground pressure vehicles are used and similarly where any ice pads or other staging might have occurred. I'll look to her 2010 publication to flesh that out and identify science gaps that could have helped mitigate damage observed

Just a couple of FYI's:

Arctic LCC supported development of an updated landform map for the wetlands of the entire Arctic Coastal Plain (although the 1002 area covers more than the lowland wetland types that were the focus). This work was done as part of an effort to describe thermokarst potential and model future active layer depths and thus landform transformation. I'll attach a poster (Lara ACP Mapping Presentation) that describes this work and Paul has the GIS data produced.

We also have a report by Torre Jorgensen on Permafrost mapping for the north slope and

while not at a scale for industrial applications, that will be useful for the soils and permafrost assessment. It is not a huge file, so I will also attach it in case it can help with any hydrology or habitat descriptions you all may be working on.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Arthur, Stephen](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Paul Leonard](#)  
**Subject:** Re: Any info from Janet about 1002 vegetation/landscape studies needed?  
**Date:** Tuesday, January 9, 2018 5:57:08 PM

---

Sounds good. Keep in mind that there has been a large amount of work done on PCH habitat selection already, much of it summarized in the Douglas et al. 2002 report. Don Russell has incorporated a lot of that info into a population model, which I understand has recently been improved. I hope we can use that work as a basis for more detailed studies regarding potential effects of shifting the calving range.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
101 12th Ave., Room 236  
Fairbanks, AK 99701  
(907)455-1830*

On Tue, Jan 9, 2018 at 3:48 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Steve,

Thanks for the reply on my inquiry about Janet's thoughts on vegetation. Given that our deadline was extended to February 16<sup>th</sup>, I think that means that Janet (and Torre) will be back at the end of the month to contribute to the sections on vegetation, permafrost and soils. I will make a first draft of the types of decisions to be made with relation to these topics based off of possible exploration and development activities and get your feedback, and then we can work with Janet to capture her thoughts on information needs and complete the task at the beginning of February if she is available.

It is good to know your observations about seismic impacts on vegetation quality for caribou foraging. Paul and I have talked about the need to do a habitat selection analyses for the Porcupine herd to identify what habitats the herd uses when. See the attached paper from Ryan Wilson and Alex Prichard at ABR for the Teshekpuk herd as an example. That is really the first level analyses that can be done with existing collar data and it works well with the assumptions that might go into a displacement model.

I didn't grasp how extremely different the ACP for 1002 is compared to lands to the west until really looking at the maps this week. Whereas there are 4,500 lakes in just the Fish Creek/Judy Creek watershed just inside NPRA, John Trawicki noted that there were I think 156 for the Refuge coastal plain. So activities will look quite a bit different, and ensuring there is adequate snow

cover to protect Eriophorum tussocks, especially for the calving grounds. will be important for the reasons you mentioned.

More soon!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Arthur, Stephen [mailto:[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)]

**Sent:** Tuesday, January 09, 2018 10:57 AM

**To:** Wendy Loya

**Subject:** Re: Any info from Janet about 1002 vegetation/landscape studies needed?

Hi Wendy,

We have discussed information needs informally, so I do have some idea of Janet's major concerns. You probably are aware of her long term assessment of vegetation impacts of seismic trails created during the 1980s. Janet has been strongly urging that we revisit those plots again to obtain another set of data now that its been 15 years since the last surveys were made. I'll attach a study plan she prepared last month. She also has concerns about effects of winter travel on the relatively dry rolling tundra of the western 1002 area (more subject to scarring because of less ice content and probably less snow cover). This area is quite different geographically than the area around Prudhoe Bay and Kuparuk, so experiences there may not be a good guide for what we can expect in the 1002.

I am also concerned about effects of large-scale seismic exploration on short term growth of important caribou food plants (especially Eriophorum). I say this based on observing the brown tundra left behind by delayed melting of ice roads and winter trails in the existing oil fields to the west. In many areas, these trails basically eliminate an entire season of growth for caribou forage plants, even if the area recovers by the following year. In the 1002 area, where there is much less coastal plain available, it seems like this could have a measurable



affect on food available to caribou during the calving and post calving periods (depending on how widespread these trails turn out to be).

I'd be happy to discuss these ideas further, or any other thoughts you have about the vegetation issues.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist*

*Arctic National Wildlife Refuge*

*101 12th Ave., Room 236*

*Fairbanks, AK 99701*

*(907)455-1830*

On Mon, Jan 8, 2018 at 4:15 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Steve A , Greta, Chris, and Steve B

I wanted to check in with you and see if Janet has shared any of her thoughts about studies that she would like to see done with regards to vegetation or other terrestrial ecology associated with advancing exploration and development of the 1002 area?

My initial thoughts are that for the summer following winter exploration activities (e.g. seismic), the Refuge would want to follow up with some vegetation surveys to observe whether there had been adequate snowcover to protect vegetation and soils where low-ground pressure vehicles are used and similarly where any ice pads or other staging might have occurred. I'll look to her 2010 publication to flesh that out and identify science gaps that could have helped mitigate damage observed

Just a couple of FYI's:

Arctic LCC supported development of an updated landform map for the wetlands of the entire Arctic Coastal Plain (although the 1002 area covers more than the lowland wetland

types that were the focus). This work was done as part of an effort to describe thermokarst potential and model future active layer depths and thus landform transformation. I'll attach a poster (Lara ACP Mapping Presentation) that describes this work and Paul has the GIS data produced.

We also have a report by Torre Jorgensen on Permafrost mapping for the north slope and while not at a scale for industrial applications, that will be useful for the soils and permafrost assessment. It is not a huge file, so I will also attach it in case it can help with any hydrology or habitat descriptions you all may be working on.

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** [Miller, Mark](#)  
**To:** [Arthur, Stephen](#)  
**Cc:** [Wendy Loya](#); [John Martin](#); [Tracy Fischbach](#); [Steve Berendzen](#); [Paul Leonard](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 9, 2018 6:35:55 PM

---

Thanks Wendy for the introduction.

I'll reach out and attempt to engage Davyd, and aim to set up coordination call for later this week or early next if possible.

Mark

---

**Mark E. Miller, PhD | Deputy Director**  
North Slope Science Initiative | <http://www.NorthSlopeScience.org>  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

On Tue, Jan 9, 2018 at 2:09 PM, Arthur, Stephen <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)> wrote:

Wendy,

I agree noise is likely to be a factor in the human dimensions realm, and perhaps there could be wildlife impacts as well. I don't know of any FWS work in this field. NPS has an active program in soundscape monitoring, Davyd Betchkal is the program lead for Alaska (email: [davyd\\_betchkal@nps.gov](mailto:davyd_betchkal@nps.gov)). He would be a good contact for setting something up.

Steve

**Stephen M. Arthur, Ph.D.**  
*Supervisory Wildlife Biologist*  
*Arctic National Wildlife Refuge*  
[101 12th Ave., Room 236](#)  
[Fairbanks, AK 99701](#)  
[\(907\)455-1830](#)

On Tue, Jan 9, 2018 at 1:48 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

John, Tracy, Steve and Steve,

Mark Miller, the Deputy Director for the North Slope Science Initiative, has experience in identifying noise and acoustical environment issues from recent work in NPRA. Given the potential proximity of exploration and development activities to Kaktovik and for potential disturbance to wildlife, this does seem like a topic of importance for FWS to consider for the 1002 area. Do we have any staff with expertise in this area regionally for Mark to

collaborate/consult with?

If not, probably the best course of action is for Tracy and Mark to touch base since Tracy is handling most of the human dimensions work. Filling out the template to identify decisions that will need to be made that involve an understanding of noise disturbance and the science needed to make those could certainly be built of knowledge and expertise from NPRA and also looking to the Pt Thompson EIS.

I'll add in that NSSI also has a technical working group to address aircraft disturbance, especially to hunters. This has been one of the primary complaints from Nuiqsut (which is a staging location for science to support development and central to development and operations activities at Alpine and NPRA, and which BLM and Industry have partnered to try to address.

Alternative suggestions or confirmation that this is a reasonable approach?

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]

**Sent:** Tuesday, January 09, 2018 1:23 PM

**To:** Wendy M. Loya, PhD

**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

Thanks for poking me on the noise topic. On reflection, I do think that I should suggest noise or acoustical environment as an explicit topic after all, given its prominence as a factor that is perceived to impact subsistence resources and activities in NPRA. May I ask you to assist me in identifying an appropriate FWS colleague who might join me in working on this?

m

---

Mark E. Miller, PhD | Deputy Director

North Slope Science Initiative | <http://www.NorthSlopeScience.org>

Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427

c/o Bureau of Land Management | Alaska State Office | State Director's Office

[222 West 7th Avenue, #13 | Anchorage, AK 99513](#)

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

----- Forwarded message -----

From: **Henszey, Bob** <[bob\\_henszey@fws.gov](mailto:bob_henszey@fws.gov)>

Date: Tue, Jan 9, 2018 at 1:03 PM

Subject: Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

To: "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

Cc: Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, "Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>, Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>, "Putnam, Christopher" <[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, Sarah Conn <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)>, Edward Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell <[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Greta Burkart <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>, Janet Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>, Richard Lanctot <[richard\\_lanctot@fws.gov](mailto:richard_lanctot@fws.gov)>, Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>, Angela Matz <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Randy Brown <[randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov)>, Hollis Twitchell <[hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)>, Kaithryn Ott <[kaithryn\\_ott@fws.gov](mailto:kaithryn_ott@fws.gov)>, Margaret Perdue <[margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov)>, Joshua Rose <[joshua\\_rose@fws.gov](mailto:joshua_rose@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, David Houseknecht <[dhhouse@usgs.gov](mailto:dhhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Todd Atwood <[tatwood@usgs.gov](mailto:tatwood@usgs.gov)>, Bruce Richmond <[brichmond@usgs.gov](mailto:brichmond@usgs.gov)>, Li Erikson <[lerikson@usgs.gov](mailto:lerikson@usgs.gov)>, Ann Gibbs <[agibbs@usgs.gov](mailto:agibbs@usgs.gov)>, Guy Gelfenbaum <[ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov)>, Heather Johnson <[heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)>, Frank Urban <[furban@usgs.gov](mailto:furban@usgs.gov)>, Robert Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Zachary Lyons

0000006708

<[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stacie McIntosh  
<[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet  
<[ssweet@blm.gov](mailto:ssweet@blm.gov)>, "Nichelle (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Mark Miller  
<[memiller@blm.gov](mailto:memiller@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Eric Geisler  
<[egeisler@blm.gov](mailto:egeisler@blm.gov)>, David Payer <[david.payer@nps.gov](mailto:david.payer@nps.gov)>, "Sara W (DNR)"  
<[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>, Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan  
<[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem  
<[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy Fischbach  
<[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>, Louise Smith  
<[Louise\\_Smith@fws.gov](mailto:Louise_Smith@fws.gov)>

All,

The Point Thomson EIS is probably a better rough model for a 1002 EIS than the Draft Liberty Island EIS currently working its way through the approval process. ARLIS has a copy of the Point Thomson EIS found at the link below, and I've attached the Record of Decision (ROD) for the EIS.

Bob

ARLIS (<http://www.arlis.org/thepipefiles/Record/1479758>) has the EIS.

---

Robert J. Henszey, Ph.D.

Branch Chief

Planning and Consultation

US Fish & Wildlife Service

[101 12th Avenue, Room 110](#)

[Fairbanks, AK 99701](#)

Phone: 907-456-0323, Fax: 907-456-0208

[Bob\\_Henszey@fws.gov](mailto:Bob_Henszey@fws.gov)

*"Water Always Wins," Dr. Who 2009.11.15*

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

## Attachments

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.

2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).

3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.

4. The 7 volumes of the NPRA EIS may be located at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>

5. The 2015 Arctic Refuge CCP may be located at <https://www.fws.gov/home/arctic-ccp>

The ROD is attached.



**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [David Payer](#); [Sara W. \(DNR\)](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#)  
**Subject:** Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 9, 2018 11:34:23 AM  
**Attachments:** [State of Alaska O&G Res Eval Proposal for 1002 Area ANWR 2013.pdf](#)  
[USACE ROD Point Thompson Oct2012.pdf](#)  
[Coastal Plain 1002 Area Interdisciplinary Info Request UPDATED wRPT OUTLINE 9Jan2018v6.docx](#)  
[Literature Cited updated 4 Jan 2018.docx](#)  
[ROD Revised CCP Arctic NWR Apr2015.pdf](#)

---

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.

2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).

3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.

4. The 7 volumes of the NPRA EIS may be located at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>

5. The 2015 Arctic Refuge CCP may be located at <https://www.fws.gov/home/arctic-ccp>

The ROD is attached.

**From:** [Miller, Mark](#)  
**To:** [Martin, John](#); [Wendy M. Loya, PhD](#)  
**Cc:** [Doug Damberg](#)  
**Subject:** Re: NS-RAQM Call/Presentation  
**Date:** Wednesday, January 10, 2018 10:11:51 AM

---

I should add that BLM is funding this work and Alan Peck ([kpeck@blm.gov](mailto:kpeck@blm.gov)) in our office is the contact. I believe he and Wendy know one another.

---

**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

On Wed, Jan 10, 2018 at 8:09 AM, Miller, Mark <[memiller@blm.gov](mailto:memiller@blm.gov)> wrote:  
John, Wendy -

This information pertains to a call scheduled for later today, the subject of which is a new regional air quality being developed for the North Slope. I understand that Wendy / Arctic LCC was identified as the interim POC for 1002 air quality. Note that there are a few FWS staff on the invitation list for this call - perhaps they may be other candidates for the 1002 air quality team.

I just shared the calendar invitation with Wendy.

Mark

---

**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

----- Forwarded message -----

**From:** Roger Brower <[RBrower@zephyrenv.com](mailto:RBrower@zephyrenv.com)>  
**Date:** Wed, Jan 3, 2018 at 11:59 AM  
**Subject:** NS-RAQM Call/Presentation  
**To:** "[heather.crowley@boem.gov](mailto:heather.crowley@boem.gov)" <[heather.crowley@boem.gov](mailto:heather.crowley@boem.gov)>, "[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)" <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, "[memiller@blm.gov](mailto:memiller@blm.gov)" <[memiller@blm.gov](mailto:memiller@blm.gov)>, "[s05mcint@blm.gov](mailto:s05mcint@blm.gov)" <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, "[cnicholl@blm.gov](mailto:cnicholl@blm.gov)" <[cnicholl@blm.gov](mailto:cnicholl@blm.gov)>, "[catherine\\_collins@fws.gov](mailto:catherine_collins@fws.gov)" <[catherine\\_collins@fws.gov](mailto:catherine_collins@fws.gov)>, "[curtis.jennifer@epa.gov](mailto:curtis.jennifer@epa.gov)" <[curtis.jennifer@epa.gov](mailto:curtis.jennifer@epa.gov)>, "[deanna.huff@alaska.gov](mailto:deanna.huff@alaska.gov)" <[deanna.huff@alaska.gov](mailto:deanna.huff@alaska.gov)>, "[barbara.trost@alaska.gov](mailto:barbara.trost@alaska.gov)" <[barbara.trost@alaska.gov](mailto:barbara.trost@alaska.gov)>, "[baanderson02@fs.fed.us](mailto:baanderson02@fs.fed.us)" <[baanderson02@fs.fed.us](mailto:baanderson02@fs.fed.us)>, "[lgeiser@fs.fed.us](mailto:lgeiser@fs.fed.us)" <[lgeiser@fs.fed.us](mailto:lgeiser@fs.fed.us)>, "[andrea\\_stacy@nps.gov](mailto:andrea_stacy@nps.gov)" <[andrea\\_stacy@nps.gov](mailto:andrea_stacy@nps.gov)>, "[srice@blm.gov](mailto:srice@blm.gov)" <[srice@blm.gov](mailto:srice@blm.gov)>, "[tamara\\_mccandless@fws.gov](mailto:tamara_mccandless@fws.gov)" <[tamara\\_mccandless@fws.gov](mailto:tamara_mccandless@fws.gov)>, "[mcalpine.jay@epa.gov](mailto:mcalpine.jay@epa.gov)"

<[mcalpine.jay@epa.gov](mailto:mcalpine.jay@epa.gov)>, "[kpeck@blm.gov](mailto:kpeck@blm.gov)" <[kpeck@blm.gov](mailto:kpeck@blm.gov)>, "[tim\\_allen@fws.gov](mailto:tim_allen@fws.gov)" <[tim\\_allen@fws.gov](mailto:tim_allen@fws.gov)>, "[pepple.karl@epa.gov](mailto:pepple.karl@epa.gov)" <[pepple.karl@epa.gov](mailto:pepple.karl@epa.gov)>, "[denise.koch@alaska.gov](mailto:denise.koch@alaska.gov)" <[denise.koch@alaska.gov](mailto:denise.koch@alaska.gov)>, "[vaughan.molly@epa.gov](mailto:vaughan.molly@epa.gov)" <[vaughan.molly@epa.gov](mailto:vaughan.molly@epa.gov)>, "[kirsten\\_king@nps.gov](mailto:kirsten_king@nps.gov)" <[kirsten\\_king@nps.gov](mailto:kirsten_king@nps.gov)>, "[dmaxwell@blm.gov](mailto:dmaxwell@blm.gov)" <[dmaxwell@blm.gov](mailto:dmaxwell@blm.gov)>, "[mark.storzer@boem.gov](mailto:mark.storzer@boem.gov)" <[mark.storzer@boem.gov](mailto:mark.storzer@boem.gov)>, "[carol\\_mccoy@nps.gov](mailto:carol_mccoy@nps.gov)" <[carol\\_mccoy@nps.gov](mailto:carol_mccoy@nps.gov)>, "[martin.gayle@epa.gov](mailto:martin.gayle@epa.gov)" <[martin.gayle@epa.gov](mailto:martin.gayle@epa.gov)>, "[paul\\_burger@nps.gov](mailto:paul_burger@nps.gov)" <[paul\\_burger@nps.gov](mailto:paul_burger@nps.gov)>, "[virgilio.maisonet-montanez@boem.gov](mailto:virgilio.maisonet-montanez@boem.gov)" <[virgilio.maisonet-montanez@boem.gov](mailto:virgilio.maisonet-montanez@boem.gov)>, "[wroble.julie@epa.gov](mailto:wroble.julie@epa.gov)" <[wroble.julie@epa.gov](mailto:wroble.julie@epa.gov)>, "[brooke\\_merrell@nps.gov](mailto:brooke_merrell@nps.gov)" <[brooke\\_merrell@nps.gov](mailto:brooke_merrell@nps.gov)>, "[John\\_Notar@nps.gov](mailto:John_Notar@nps.gov)" <[John\\_Notar@nps.gov](mailto:John_Notar@nps.gov)>, "[brad.c.thomas@conocophillips.com](mailto:brad.c.thomas@conocophillips.com)" <[brad.c.thomas@conocophillips.com](mailto:brad.c.thomas@conocophillips.com)>, "[talexander@blm.gov](mailto:talexander@blm.gov)" <[talexander@blm.gov](mailto:talexander@blm.gov)>, "[Mike.Barna@colostate.edu](mailto:Mike.Barna@colostate.edu)" <[Mike.Barna@colostate.edu](mailto:Mike.Barna@colostate.edu)>, "[rboyd@blm.gov](mailto:rboyd@blm.gov)" <[rboyd@blm.gov](mailto:rboyd@blm.gov)>, "[ccoulter@blm.gov](mailto:ccoulter@blm.gov)" <[ccoulter@blm.gov](mailto:ccoulter@blm.gov)>, "[kquinones@blm.gov](mailto:kquinones@blm.gov)" <[kquinones@blm.gov](mailto:kquinones@blm.gov)>, Robert Newman <[rnewman@zephyrenv.com](mailto:rnewman@zephyrenv.com)>, "[dem@alpinegeophysics.com](mailto:dem@alpinegeophysics.com)" <[dem@alpinegeophysics.com](mailto:dem@alpinegeophysics.com)>, "[Paula.Fields@erg.com](mailto:Paula.Fields@erg.com)" <[Paula.Fields@erg.com](mailto:Paula.Fields@erg.com)>, "[Marty.Wolf@erg.com](mailto:Marty.Wolf@erg.com)" <[Marty.Wolf@erg.com](mailto:Marty.Wolf@erg.com)>, Austin O'Kelly <[aokelly@zephyrenv.com](mailto:aokelly@zephyrenv.com)>

Conference Call/Skype Meeting is scheduled for 3:30 pm MT on January 10, 2018

Call-in Number: **85-CIP**; Conf Pin: **85-CIP**; Participant Pin: **85-CIP**



**Roger Brower** | Principal  
Zephyr Environmental Corporation  
[10440 Little Patuxent Parkway, Ste 750 | Columbia, MD 21044](https://www.zephyrenv.com)  
Direct: 410.312.7907 | [rbrower@zephyrenv.com](mailto:rbrower@zephyrenv.com)  
[ZephyrEnv.com](https://www.ZephyrEnv.com) | [HazMatAcademy.com](https://www.HazMatAcademy.com)

**From:** [Wendy Loya](#)  
**To:** [Greta Burkart](#); [Janet Jorgenson](#)  
**Cc:** [Steve Berendzen](#); [Christopher Latty](#); [John Trawicki](#); [Joanna Fox](#); [Paul Leonard](#)  
**Subject:** FW: Any info from Janet about 1002 vegetation/landscape studies needed?  
**Date:** Wednesday, January 10, 2018 10:45:17 AM  
**Attachments:** [wilson Tesh summer habitat Plosone 2012.PDF](#)

---

Hi Greta and Arctic Refugers,

Below is my reply to Steve Arthur regarding vegetation studies, where I suggest that given the deadline extension to Feb 16<sup>th</sup>, Janet will be around to help us take that section and the soils, permafrost to the finish line after her annual leave (I hope!). So I'll get started and have something for her to add to (or rewrite 😊).

Of course, what you wrote today 1/10/18 about riparian surveys and wet meadow recharge is something that we can add to that first draft. And the same to Joanna for contacts on noise studies. Thank you all for continuing to share your expertise to bring this together, keep it coming 😊

Cheers,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Wendy Loya [mailto:[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)]  
**Sent:** Tuesday, January 09, 2018 3:49 PM  
**To:** Stephen Arthur  
**Cc:** Paul Leonard  
**Subject:** RE: Any info from Janet about 1002 vegetation/landscape studies needed?

Hi Steve,

Thanks for the reply on my inquiry about Janet's thoughts on vegetation. Given that our deadline was extended to February 16<sup>th</sup>, I think that means that Janet (and Torre) will be back at the end of the month to contribute to the sections on vegetation, permafrost and soils. I will make a first draft of the types of decisions to be made with relation to these topics based off of possible exploration and development activities and get your feedback, and then we can work with Janet to capture her thoughts on information needs and complete the task at the beginning of February if she is available.

It is good to know your observations about seismic impacts on vegetation quality for caribou foraging. Paul and I have talked about the need to do a habitat selection analyses for the Porcupine herd to identify what habitats the herd uses when. See the attached paper from Ryan Wilson and Alex Prichard at ABR for the Teshekpuk herd as an example. That is really the first level analyses that can be done with existing collar data and it works well with the assumptions that might go into a displacement model.

I didn't grasp how extremely different the ACP for 1002 is compared to lands to the west until really looking at the maps this week. Whereas there are 4,500 lakes in just the Fish Creek/Judy Creek watershed just inside NPRA, John Trawicki noted that there were I think 156 for the Refuge coastal plain. So activities will look quite a bit different, and ensuring there is adequate snow cover to protect Eriophorum tussocks, especially for the calving grounds. will be important for the reasons you mentioned.

More soon!  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Arthur, Stephen [[mailto:stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)]  
**Sent:** Tuesday, January 09, 2018 10:57 AM  
**To:** Wendy Loya  
**Subject:** Re: Any info from Janet about 1002 vegetation/landscape studies needed?

Hi Wendy,

We have discussed information needs informally, so I do have some idea of Janet's major concerns. You probably are aware of her long term assessment of vegetation impacts of seismic trails created during the 1980s. Janet has been strongly urging that we revisit those plots again to obtain another set of data now that its been 15 years since the last surveys were made. I'll attach a study plan she prepared last month. She also has concerns about effects of winter travel on the relatively dry rolling tundra of the western 1002 area (more subject to scarring because of less ice content and probably less snow cover). This area is quite different geographically than the area around Prudhoe Bay and Kuparuk, so experiences there may not be a good guide for what we can expect in the 1002.

I am also concerned about effects of large-scale seismic exploration on short term growth of important caribou food plants (especially Eriophorum). I say this based on observing the brown tundra left behind by delayed melting of ice roads and winter trails in the existing oil fields to the west. In many areas, these trails basically eliminate an entire season of growth for caribou forage plants, even if the area recovers by the following year. In the 1002 area, where there is much less coastal plain available, it seems like this could have a measurable affect on food available to caribou during the calving and post calving periods (depending on how widespread these trails turn out to be).

I'd be happy to discuss these ideas further, or any other thoughts you have about the vegetation issues.

Steve

Stephen M. Arthur, Ph.D.  
*Supervisory Wildlife Biologist*

*Arctic National Wildlife Refuge  
101 12th Ave., Room 236  
Fairbanks, AK 99701  
(907)455-1830*

On Mon, Jan 8, 2018 at 4:15 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Hi Steve A , Greta, Chris, and Steve B

I wanted to check in with you and see if Janet has shared any of her thoughts about studies that she would like to see done with regards to vegetation or other terrestrial ecology associated with advancing exploration and development of the 1002 area?

My initial thoughts are that for the summer following winter exploration activities (e.g. seismic), the Refuge would want to follow up with some vegetation surveys to observe whether there had been adequate snowcover to protect vegetation and soils where low-ground pressure vehicles are used and similarly where any ice pads or other staging might have occurred. I'll look to her 2010 publication to flesh that out and identify science gaps that could have helped mitigate damage observed

Just a couple of FYI's:

Arctic LCC supported development of an updated landform map for the wetlands of the entire Arctic Coastal Plain (although the 1002 area covers more than the lowland wetland types that were the focus). This work was done as part of an effort to describe thermokarst potential and model future active layer depths and thus landform transformation. I'll attach a poster (Lara ACP Mapping Presentation) that describes this work and Paul has the GIS data produced.

We also have a report by Torre Jorgensen on Permafrost mapping for the north slope and while not at a scale for industrial applications, that will be useful for the soils and permafrost assessment. It is not a huge file, so I will also attach it in case it can help with any hydrology or habitat descriptions you all may be working on.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Miller, Mark](#)  
**To:** [Fox, Joanna](#)  
**Cc:** [Berendzen, Steve](#); [Arthur, Stephen](#); [Wendy Loya](#); [John Martin](#); [Tracy Fischbach](#); [Paul Leonard](#); [Roger Kaye](#); [Alfredo Soto](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Wednesday, January 10, 2018 11:11:08 AM

---

Thanks for this additional information Joanna. I'll follow up and reach out to Roger, Alfredo, and others.

Mark

---

Mark E. Miller, PhD | Deputy Director  
North Slope Science Initiative | <http://www.NorthSlopeScience.org>  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

On Wed, Jan 10, 2018 at 7:31 AM, Fox, Joanna <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)> wrote:

Some baseline soundscape work has been completed in Arctic Refuge. Roger Kaye is probably the staff member who is most familiar with that work. I know he recently corresponded with someone from Colorado State University who was interested in doing some additional soundscape work in the refuge, and referenced it at that time.

I believe the original soundscape work was done by Bernie Krause in 2006. Last spring we learned through Katherine Krause that they were interested in doing a second phase of the work, and intended to submit a special use permit application to do so. I'm not sure that we ever received one though, as I don't recall discussing it again after that. Perhaps Alfredo and Roger can provide some additional information. I think Dave Payer (now with NPS) may have been involved in the original project as well.

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
[101 12th Avenue, Room 236](#)  
[Fairbanks, AK 99701](#)  
[\(907\) 456-0549](#)

Follow us on Facebook!  
[www.facebook.com/arcticonationalwildliferefuge](http://www.facebook.com/arcticonationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*

On Tue, Jan 9, 2018 at 5:52 PM, Berendzen, Steve <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)> wrote:

Thanks, Wendy - I agree that noise could be a significant concern and glad that you caught it early on and you and Steve have already identified some contacts for support.

Steve Berendzen



Acting Manager, Arctic National Wildlife Refuge  
907-456-0253

On Tue, Jan 9, 2018 at 2:09 PM, Arthur, Stephen <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)> wrote:  
Wendy,

I agree noise is likely to be a factor in the human dimensions realm, and perhaps there could be wildlife impacts as well. I don't know of any FWS work in this field. NPS has an active program in soundscape monitoring, Davyd Betchkal is the program lead for Alaska (email: [davyd\\_betchkal@nps.gov](mailto:davyd_betchkal@nps.gov)). He would be a good contact for setting something up.

Steve

**Stephen M. Arthur, Ph.D.**

*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
[101 12th Ave., Room 236](#)  
[Fairbanks, AK 99701](#)  
[\(907\)455-1830](#)*

On Tue, Jan 9, 2018 at 1:48 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

John, Tracy, Steve and Steve,

Mark Miller, the Deputy Director for the North Slope Science Initiative, has experience in identifying noise and acoustical environment issues from recent work in NPRA. Given the potential proximity of exploration and development activities to Kaktovik and for potential disturbance to wildlife, this does seem like a topic of importance for FWS to consider for the 1002 area. Do we have any staff with expertise in this area regionally for Mark to collaborate/consult with?

If not, probably the best course of action is for Tracy and Mark to touch base since Tracy is handling most of the human dimensions work. Filling out the template to identify decisions that will need to be made that involve an understanding of noise disturbance and the science needed to make those could certainly be built of knowledge and expertise from NPRA and also looking to the Pt Thompson EIS.

I'll add in that NSSI also has a technical working group to address aircraft disturbance, especially to hunters. This has been one of the primary complaints from Nuiqsut (which is a staging location for science to support development and central to development and operations activities at Alpine and NPRA, and which BLM and Industry have partnered to try to address.

Alternative suggestions or confirmation that this is a reasonable approach?

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]

**Sent:** Tuesday, January 09, 2018 1:23 PM

**To:** Wendy M. Loya, PhD

**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

Thanks for poking me on the noise topic. On reflection, I do think that I should suggest noise or acoustical environment as an explicit topic after all, given its prominence as a factor that is perceived to impact subsistence resources and activities in NPRA. May I ask you to assist me in identifying an appropriate FWS colleague who might join me in working on this?

m

---

**Mark E. Miller, PhD | Deputy Director**

**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**

Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427

c/o Bureau of Land Management | Alaska State Office | State Director's Office

[222 West 7th Avenue, #13 | Anchorage, AK 99513](#)

---

"We are drowning in information, while starving for wisdom. The world henceforth

will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

----- Forwarded message -----

From: **Henszey, Bob** <[bob\\_henszey@fws.gov](mailto:bob_henszey@fws.gov)>

Date: Tue, Jan 9, 2018 at 1:03 PM

Subject: Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

To: "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

Cc: Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox

<[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Drew Crane

<[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie

Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, "Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>,

Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>, "Putnam, Christopher"

<[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Paul

Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, Sarah Conn <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)>, Edward

Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell

<[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, John

Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Wendy

Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Greta Burkart <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>, Janet

Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>, Richard Lanctot <[richard\\_lanctot@fws.gov](mailto:richard_lanctot@fws.gov)>,

Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>, Angela Matz

<[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Randy Brown <[randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov)>, Hollis

Twitchell <[hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)>, Kaithryn Ott <[kaithryn\\_ott@fws.gov](mailto:kaithryn_ott@fws.gov)>,

Margaret Perdue <[margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov)>, Joshua Rose

<[joshua\\_rose@fws.gov](mailto:joshua_rose@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris

<[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, David

Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Todd Atwood

<[tatwood@usgs.gov](mailto:tatwood@usgs.gov)>, Bruce Richmond <[brichmond@usgs.gov](mailto:brichmond@usgs.gov)>, Li Erikson

<[lerikson@usgs.gov](mailto:lerikson@usgs.gov)>, Ann Gibbs <[agibbs@usgs.gov](mailto:agibbs@usgs.gov)>, Guy Gelfenbaum

<[ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov)>, Heather Johnson <[heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)>, Frank

Urban <[furban@usgs.gov](mailto:furban@usgs.gov)>, Robert Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Zachary

Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stacie McIntosh

<[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet

<[ssweet@blm.gov](mailto:ssweet@blm.gov)>, "Nichelle (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Mark Miller

<[memiller@blm.gov](mailto:memiller@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Eric Geisler

<[egeisler@blm.gov](mailto:egeisler@blm.gov)>, David Payer <[david.payer@nps.gov](mailto:david.payer@nps.gov)>, "Sara W (DNR)"

<[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>, Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan

<[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem

<[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy

Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>,

Louise Smith <[Louise\\_Smith@fws.gov](mailto:Louise_Smith@fws.gov)>

All,

The Point Thomson EIS is probably a better rough model for a 1002 EIS than the

Draft Liberty Island EIS currently working its way through the approval process. ARLIS has a copy of the Point Thomson EIS found at the link below, and I've attached the Record of Decision (ROD) for the EIS.

Bob

ARLIS (<http://www.arlis.org/thepipefiles/Record/1479758>) has the EIS.

---

Robert J. Henszey, Ph.D.

Branch Chief

Planning and Consultation

US Fish & Wildlife Service

[101 12th Avenue, Room 110](#)

[Fairbanks, AK 99701](#)

Phone: 907-456-0323, Fax: 907-456-0208

[Bob\\_Henszey@fws.gov](mailto:Bob_Henszey@fws.gov)

*"Water Always Wins," Dr. Who 2009.11.15*

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we

presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil

and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.

2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).

3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.

4. The 7 volumes of the NPRA EIS may be located at  
<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>

5. The 2015 Arctic Refuge CCP may be located at  
<https://www.fws.gov/home/arctic-ccp>

The ROD is attached.

**From:** [Leonard, Paul](#)  
**To:** [Urban, Frank](#)  
**Cc:** [Wendy Lova](#); [Matthew Sturm](#); [Greta Burkart](#); [John Trawicki](#); [Gary Clow](#)  
**Subject:** Re: 1002 Climate resource assessment - MET stations  
**Date:** Wednesday, January 10, 2018 11:15:32 AM  
**Attachments:** [USGS-Stations.png](#)  
[Summary notes from Call with MSturm.docx](#)

---

Thanks for those initial thoughts Frank.

I should point out that Wendy has spent some time recently with Matthew Sturm and he has provided us with a pretty good summary of snow surveys for the 1002 area and additional ideas that this team can build out. Those notes are attached.

Now that we've had the deadline to pull this information together extended a bit, I'd like to propose a call early next week in hopes of getting on Matthew's calendar who is out this week.

With the holiday Monday, would either Tuesday at 2 PM AK or Wed. at 11 AM AK work for you?

I can also put together a doodle poll if scheduling gets difficult (their site is not functioning properly right now).

Thanks again.

Cheers,  
Paul

On Tue, Jan 9, 2018 at 10:27 AM, Urban, Frank <[furban@usgs.gov](mailto:furban@usgs.gov)> wrote:

Paul, easiest to chat on the phone about some of these questions, Thurs afternoon might be best- how about 3pm Mountain time? consult w USGS

[REDACTED]

consult w USGS  
[REDACTED]

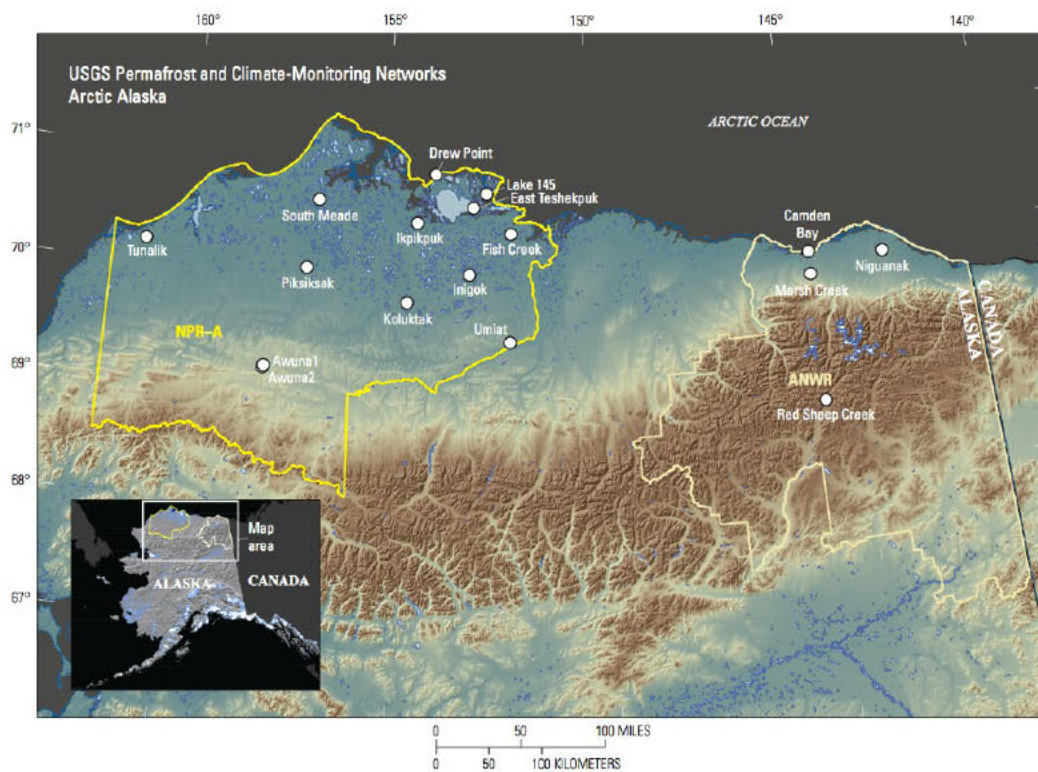
[REDACTED]



consult w USGS

Let me know if Thursday works for you to chat, if not let me know some other possible time slots

Frank



**Figure A-1.** U.S. Department of the Interior/Global Terrestrial Network for Permafrost (DOI/GTN-P) climate monitoring array in Arctic Alaska. There are 12 stations currently operating in the National Petroleum Reserve-Alaska (NPR-A) and 4 stations in the Arctic National Wildlife Refuge (ANWR). Station names can be clicked to access climate summaries, data files, and station-specific information.

On Tue, Jan 9, 2018 at 10:00 AM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
Good morning Frank,

The Arctic LCC staff is facilitating the Climate/Snow resource assessment team and as I started looking at possible MET stations in 1002 I wanted to see if we could get an update and additional ideas from you guys.

0000006727



I know USGS has some stations around Marsh Creek and Camden Bay, are these still operating and if so how might we compliment snow data collected with additional sites? One immediate idea is to look at adding snow instrumentation to stations from the seismic transportable arrays here: <http://www.usarray.org/alaska#meteorological-and-soil-temperature>

with an interactive map here:

[http://www.iris.washington.edu/gmap/\\_US-TA?minlat=50&maxlat=73&minlon=-175&maxlon=-122](http://www.iris.washington.edu/gmap/_US-TA?minlat=50&maxlat=73&minlon=-175&maxlon=-122)

It looks like these stations already collect information about wind and temperature but are scheduled to go offline in 2019. It might be a good recommendation to continue funding the stations?

Any thoughts about how the locations of these stations might help get a better handle on snow depth or other ideas about how to monitor (e.g., structure from motion)?

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
[101 12th Ave. Room 216](#)  
[Fairbanks, AK 99701](#)  
[\(907\) 456-0445](#)

--

Frank Urban  
U.S. Geological Survey  
MS 980, Box 25046  
Denver, CO 80225  
303-236-4790

--

Paul Leonard, PhD  
Science Coordinator

[Arctic LCC](#)

101 12th Ave. Room 216

Fairbanks, AK 99701

(907) 456-0445

**From:** [Frank Urban](#)  
**To:** [Leonard, Paul](#)  
**Cc:** [Wendy Loya](#); [Matthew Sturm](#); [Greta Burkart](#); [John Trawick](#); [Gary Clow](#)  
**Subject:** Re: 1002 Climate resource assessment - MET stations  
**Date:** Wednesday, January 10, 2018 11:30:25 AM

---

Paul,

All sounds good and Matthew and I will chat prior to this to compile thoughts as well. Good to hear that Wendy and Matthew have touched base as he has a good handle on all of this for sure.

Tuesday 2pm AK will work for me but Wednesday 11AM AK would be difficult.

Thanks!

Frank

On Jan 10, 2018, at 11:14 AM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:

Thanks for those initial thoughts Frank.

I should point out that Wendy has spent some time recently with Matthew Sturm and he has provided us with a pretty good summary of snow surveys for the 1002 area and additional ideas that this team can build out. Those notes are attached.

Now that we've had the deadline to pull this information together extended a bit, I'd like to propose a call early next week in hopes of getting on Matthew's calendar who is out this week.

With the holiday Monday, would either Tuesday at 2 PM AK or Wed. at 11 AM AK work for you?

I can also put together a doodle poll if scheduling gets difficult (their site is not functioning properly right now).

Thanks again.

Cheers,  
Paul

On Tue, Jan 9, 2018 at 10:27 AM, Urban, Frank <[furban@usgs.gov](mailto:furban@usgs.gov)> wrote:

Paul, easiest to chat on the phone about some of these questions, Thurs afternoon might be best- how about 3pm Mountain time? consult w USGS

consult w USGS

consult w USGS

consult w USGS

Let me know if Thursday works for you to chat, if not let me know some other possible time slots

Frank

<USGS-Stations.png>

On Tue, Jan 9, 2018 at 10:00 AM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:

Good morning Frank,

The Arctic LCC staff is facilitating the Climate/Snow resource assessment team and as I started looking at possible MET stations in 1002 I wanted to see if we could get an update and additional ideas from you guys.

I know USGS has some stations around Marsh Creek and Camden Bay, are these still operating and if so how might we compliment snow data collected with additional sites? One immediate idea is to look at adding snow instrumentation to stations from the seismic transportable arrays here: <http://www.usarray.org/alaska#meteorological-and-soil-temperature> with an interactive map here:

[http://www.iris.washington.edu/gmap/\\_US-TA?minlat=50&maxlat=73&minlon=-175&maxlon=-122](http://www.iris.washington.edu/gmap/_US-TA?minlat=50&maxlat=73&minlon=-175&maxlon=-122)

It looks like these stations already collect information about wind and temperature but are scheduled to go offline in 2019. It might be a good recommendation to continue funding the stations?

Any thoughts about how the locations of these stations might help get a better handle on snow depth or other ideas about how to monitor (e.g., structure from motion)?

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
[101 12th Ave. Room 216](#)  
[Fairbanks, AK 99701](#)  
[\(907\) 456-0445](#)

--

Frank Urban  
U.S. Geological Survey  
MS 980, Box 25046  
Denver, CO 80225  
303-236-4790

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

<Summary notes from Call with MSturm.docx>

**From:** [Wendy Loya](#)  
**To:** [John Martin](#); [Stephanie Brady](#)  
**Subject:** Need for basic assumptions on Exploration and Development?: Coastal Plain 1002 Area Needs Assessment Reporting Template  
**Date:** Wednesday, January 10, 2018 12:52:38 PM

---

Hi John and Stephanie,

Given email traffic yesterday, it seems like it would be good to have a description of the types of activities that are possible during the exploration and development phases for our technical expertise groups to refer to, what do you think? It could be fine that people go to the three documents described (NPRA, PT Thompson and Liberty) or have pre-existing knowledge to think of a range of activity scenarios to consider. While NPRA is the right type of document (leasing), there is useful info in PT T about offshore ice roads and airstrips that might be relevant to 1002 area.

I think it is easy enough to pull the exploration chapter from NPRA and share that, but development gets a little bit more complicated as development scenarios for NPRA have different assumptions (no roads connecting development hubs beyond the currently identified GMT and BT units) than the 1002 might, based on the lack of water resources. A full gravel road network might be a reasonable assumption, which was not an NPRA alternative.

Just wanted to check in with you all to see if this is something you are already working on or have gotten feedback on that provides alternative perspectives for the need.

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Burkart, Greta](#)  
**To:** [Fox, Joanna](#)  
**Cc:** [Wendy Loya](#); [Janet Jorgenson](#); [Steve Berendzen](#); [Christopher Latty](#); [John Trawicki](#); [Paul Leonard](#)  
**Subject:** Re: FW: Any info from Janet about 1002 vegetation/landscape studies needed?  
**Date:** Wednesday, January 10, 2018 1:56:03 PM  
**Attachments:** [PercentLakeArea1002 and NPRA.pptx](#)

---

Hi Everyone,

Just to reiterate what Wendy said about lakes in the NPR-A versus lakes in the 1002 area, I have attached a tables and maps that provide a good quantitative and visual analysis of this. Lakes cover about 22% of the surface area and are well distributed throughout the developed region of the NPR-A. In contrast, lakes cover less than 2% of the 1002 area and are irregularly distributed with only 0.8% of the area between the Katakaturuk and Sadlerochit Rivers covered by lakes.

Most oil companies operating in the NPRA only use a very small fraction of the water they are permitted to withdraw from lakes. Because of the scarcity of winter water in the Arctic Refuge, oil companies will be more likely to use the total permitted volume. The effects of such high withdrawal rates have never been assessed. It is likely that they will try to not build ice roads in some areas, which will have long-term effects on the vegetation.

Greta

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
101 12 th Ave Rm 236  
Fairbanks, AK 99701  
ph: (907) 456-0519  
fax: (907) 456-0428  
email: [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)  
[www.facebook.com/arcticnationalwildliferefuge](https://www.facebook.com/arcticnationalwildliferefuge)

On Wed, Jan 10, 2018 at 9:12 AM, Fox, Joanna <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)> wrote:

Hi Wendy,

That sounds like a really good plan. I'm very glad Janet will be back in time to provide her input, as it will be very valuable (as will Torre's).

Wanted to let you know how thankful we are for your assistance! Your willingness to take a lead on some of these critical sections is very helpful, and very much appreciated. We'll keep feeding you information as it's developed or comes to our attention.

Thanks much,  
Joanna

---

Joanna L. Fox  
Deputy Refuge Manager



Arctic National Wildlife Refuge  
[101 12th Avenue, Room 236](#)  
[Fairbanks, AK 99701](#)  
[\(907\) 456-0549](#)

Follow us on Facebook!  
[www.facebook.com/arcticnationalwildliferefuge](http://www.facebook.com/arcticnationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*

On Wed, Jan 10, 2018 at 8:45 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Greta and Arctic Refugers,

Below is my reply to Steve Arthur regarding vegetation studies, where I suggest that given the deadline extension to Feb 16<sup>th</sup>, Janet will be around to help us take that section and the soils, permafrost to the finish line after her annual leave (I hope!). So I'll get started and have something for her to add to (or rewrite ☺).

Of course, what you wrote today 1/10/18 about riparian surveys and wet meadow recharge is something that we can add to that first draft. And the same to Joanna for contacts on noise studies. Thank you all for continuing to share your expertise to bring this together, keep it coming ☺

Cheers,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

---

**From:** Wendy Loya [mailto:[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)]

**Sent:** Tuesday, January 09, 2018 3:49 PM  
**To:** Stephen Arthur  
**Cc:** Paul Leonard  
**Subject:** RE: Any info from Janet about 1002 vegetation/landscape studies needed?

Hi Steve,

Thanks for the reply on my inquiry about Janet's thoughts on vegetation. Given that our deadline was extended to February 16<sup>th</sup>, I think that means that Janet (and Torre) will be back at the end of the month to contribute to the sections on vegetation, permafrost and soils. I will make a first draft of the types of decisions to be made with relation to these topics based off of possible exploration and development activities and get your feedback, and then we can work with Janet to capture her thoughts on information needs and complete the task at the beginning of February if she is available.

It is good to know your observations about seismic impacts on vegetation quality for caribou foraging. Paul and I have talked about the need to do a habitat selection analyses for the Porcupine herd to identify what habitats the herd uses when. See the attached paper from Ryan Wilson and Alex Prichard at ABR for the Teshekpuk herd as an example. That is really the first level analyses that can be done with existing collar data and it works well with the assumptions that might go into a displacement model.

I didn't grasp how extremely different the ACP for 1002 is compared to lands to the west until really looking at the maps this week. Whereas there are 4,500 lakes in just the Fish Creek/Judy Creek watershed just inside NPRA, John Trawicki noted that there were I think 156 for the Refuge coastal plain. So activities will look quite a bit different, and ensuring there is adequate snow cover to protect Eriophorum tussocks, especially for the calving grounds. will be important for the reasons you mentioned.

More soon!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

0000006737

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Arthur, Stephen [[mailto:stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)]

**Sent:** Tuesday, January 09, 2018 10:57 AM

**To:** Wendy Loya

**Subject:** Re: Any info from Janet about 1002 vegetation/landscape studies needed?

Hi Wendy,

We have discussed information needs informally, so I do have some idea of Janet's major concerns. You probably are aware of her long term assessment of vegetation impacts of seismic trails created during the 1980s. Janet has been strongly urging that we revisit those plots again to obtain another set of data now that its been 15 years since the last surveys were made. I'll attach a study plan she prepared last month. She also has concerns about effects of winter travel on the relatively dry rolling tundra of the western 1002 area (more subject to scarring because of less ice content and probably less snow cover). This area is quite different geographically than the area around Prudhoe Bay and Kuparuk, so experiences there may not be a good guide for what we can expect in the 1002.

I am also concerned about effects of large-scale seismic exploration on short term growth of important caribou food plants (especially *Eriophorum*). I say this based on observing the brown tundra left behind by delayed melting of ice roads and winter trails in the existing oil fields to the west. In many areas, these trails basically eliminate an entire season of growth for caribou forage plants, even if the area recovers by the following year. In the 1002 area, where there is much less coastal plain available, it seems like this could have a measurable affect on food available to caribou during the calving and post calving periods (depending on how widespread these trails turn out to be).

I'd be happy to discuss these ideas further, or any other thoughts you have about the vegetation issues.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist*

0000006738

*Arctic National Wildlife Refuge*

[101 12th Ave., Room 236](#)

[Fairbanks, AK 99701](#)

[\(907\)455-1830](#)

On Mon, Jan 8, 2018 at 4:15 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Steve A , Greta, Chris, and Steve B

I wanted to check in with you and see if Janet has shared any of her thoughts about studies that she would like to see done with regards to vegetation or other terrestrial ecology associated with advancing exploration and development of the 1002 area?

My initial thoughts are that for the summer following winter exploration activities (e.g. seismic), the Refuge would want to follow up with some vegetation surveys to observe whether there had been adequate snowcover to protect vegetation and soils where low-ground pressure vehicles are used and similarly where any ice pads or other staging might have occurred. I'll look to her 2010 publication to flesh that out and identify science gaps that could have helped mitigate damage observed

Just a couple of FYI's:

Arctic LCC supported development of an updated landform map for the wetlands of the entire Arctic Coastal Plain (although the 1002 area covers more than the lowland wetland types that were the focus). This work was done as part of an effort to describe thermokarst potential and model future active layer depths and thus landform transformation. I'll attach a poster (Lara ACP Mapping Presentation) that describes this work and Paul has the GIS data produced.

We also have a report by Torre Jorgensen on Permafrost mapping for the north slope and while not at a scale for industrial applications, that will be useful for the soils and permafrost assessment. It is not a huge file, so I will also attach it in case it can help with any hydrology or habitat descriptions you all may be working on.

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** [Matz, Angela](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Mark Miller](#); [John Martin](#)  
**Subject:** Re: FW: NS-RAQM Call/Presentation (possible info for 1002 Air Quality studies)  
**Date:** Wednesday, January 10, 2018 4:33:06 PM  
**Attachments:** [NSRAQMJan102018ppt&notes.docx](#)

---

Hello everyone,

The attached ppt contains the presentation from today, plus my notes in very small font, but here's a summary:

BLM is funding a review and update of the recent BOEM North Slope Air quality modeling study, to include more recent data (if possible) and a refinement of the modeling scheme used by BOEM. The work has an ambitious schedule, to be completed by 10/30/19. They mentioned Arctic NWR, so that is on BLM's mind; this work will include resource impacts analysis.

Of use to our current data call are the names of fws air quality people, included on the email notice, who I will list on the template and contact for their assistance. I have spoken with Catherine Collins on other projects.

Let me know if you have any other questions regarding this conference call.

Thanks,

Angela

On Wed, Jan 10, 2018 at 9:10 AM, Matz, Angela <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)> wrote:

Hi Wendy, Mark, and John,

I can call in to this meeting. I'll take notes and provide them to all of you.

Thank you,

Angela

On Wed, Jan 10, 2018 at 8:36 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Good morning Angela,

Mark Miller with the North Slope Science Initiative just passed along this announcement for a north slope Air Quality meeting that is later today. I believe you told me at the end of Monday's meeting that you would be tackling this issue with contaminants, so passing this along. Forgive me if I am overlooking your name on the original list. I just see Tim Allen with FWS.

Let us know if you can't be on this call at 130pm AK time/330 MT time but would like to have notes from it and I can call in.

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]

**Sent:** Wednesday, January 10, 2018 8:10 AM

**To:** Martin, John; Wendy M. Loya, PhD

**Cc:** Doug Damberg

**Subject:** Fwd: NS-RAQM Call/Presentation

John, Wendy -

This information pertains to a call scheduled for later today, the subject of which is a new regional air quality being developed for the North Slope. I understand that Wendy / Arctic LCC was identified as the interim POC for 1002 air quality. Note that there are a few FWS staff on the invitation list for this call - perhaps they may be other candidates for the 1002 air quality team.

I just shared the calendar invitation with Wendy.

Mark

---

Mark E. Miller, PhD | Deputy Director

North Slope Science Initiative | <http://www.NorthSlopeScience.org>

Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427

c/o Bureau of Land Management | Alaska State Office | State Director's Office

0000006742

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

----- Forwarded message -----

From: **Roger Brower** <[RBrower@zephyrenv.com](mailto:RBrower@zephyrenv.com)>

Date: Wed, Jan 3, 2018 at 11:59 AM

Subject: NS-RAQM Call/Presentation

To: "[heather.crowley@boem.gov](mailto:heather.crowley@boem.gov)" <[heather.crowley@boem.gov](mailto:heather.crowley@boem.gov)>, "[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)" <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, "[memiller@blm.gov](mailto:memiller@blm.gov)" <[memiller@blm.gov](mailto:memiller@blm.gov)>, "[s05mcint@blm.gov](mailto:s05mcint@blm.gov)" <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, "[cnicholl@blm.gov](mailto:cnicholl@blm.gov)" <[cnicholl@blm.gov](mailto:cnicholl@blm.gov)>, "[catherine\\_collins@fws.gov](mailto:catherine_collins@fws.gov)" <[catherine\\_collins@fws.gov](mailto:catherine_collins@fws.gov)>, "[curtis.jennifer@epa.gov](mailto:curtis.jennifer@epa.gov)" <[curtis.jennifer@epa.gov](mailto:curtis.jennifer@epa.gov)>, "[deanna.huff@alaska.gov](mailto:deanna.huff@alaska.gov)" <[deanna.huff@alaska.gov](mailto:deanna.huff@alaska.gov)>, "[barbara.trost@alaska.gov](mailto:barbara.trost@alaska.gov)" <[barbara.trost@alaska.gov](mailto:barbara.trost@alaska.gov)>, "[baanderson02@fs.fed.us](mailto:baanderson02@fs.fed.us)" <[baanderson02@fs.fed.us](mailto:baanderson02@fs.fed.us)>, "[lgeiser@fs.fed.us](mailto:lgeiser@fs.fed.us)" <[lgeiser@fs.fed.us](mailto:lgeiser@fs.fed.us)>, "[andrea\\_stacy@nps.gov](mailto:andrea_stacy@nps.gov)" <[andrea\\_stacy@nps.gov](mailto:andrea_stacy@nps.gov)>, "[srice@blm.gov](mailto:srice@blm.gov)" <[srice@blm.gov](mailto:srice@blm.gov)>, "[tamara\\_mccandless@fws.gov](mailto:tamara_mccandless@fws.gov)" <[tamara\\_mccandless@fws.gov](mailto:tamara_mccandless@fws.gov)>, "[mcalpine.jay@epa.gov](mailto:mcalpine.jay@epa.gov)" <[mcalpine.jay@epa.gov](mailto:mcalpine.jay@epa.gov)>, "[kpeck@blm.gov](mailto:kpeck@blm.gov)" <[kpeck@blm.gov](mailto:kpeck@blm.gov)>, "[tim\\_allen@fws.gov](mailto:tim_allen@fws.gov)" <[tim\\_allen@fws.gov](mailto:tim_allen@fws.gov)>, "[pepple.karl@epa.gov](mailto:pepple.karl@epa.gov)" <[pepple.karl@epa.gov](mailto:pepple.karl@epa.gov)>, "[denise.koch@alaska.gov](mailto:denise.koch@alaska.gov)" <[denise.koch@alaska.gov](mailto:denise.koch@alaska.gov)>, "[vaughan.molly@epa.gov](mailto:vaughan.molly@epa.gov)" <[vaughan.molly@epa.gov](mailto:vaughan.molly@epa.gov)>, "[kirsten\\_king@nps.gov](mailto:kirsten_king@nps.gov)" <[kirsten\\_king@nps.gov](mailto:kirsten_king@nps.gov)>, "[dmaxwell@blm.gov](mailto:dmaxwell@blm.gov)" <[dmaxwell@blm.gov](mailto:dmaxwell@blm.gov)>, "[mark.storzer@boem.gov](mailto:mark.storzer@boem.gov)" <[mark.storzer@boem.gov](mailto:mark.storzer@boem.gov)>, "[carol\\_mccoy@nps.gov](mailto:carol_mccoy@nps.gov)" <[carol\\_mccoy@nps.gov](mailto:carol_mccoy@nps.gov)>, "[martin.gayle@epa.gov](mailto:martin.gayle@epa.gov)" <[martin.gayle@epa.gov](mailto:martin.gayle@epa.gov)>, "[paul\\_burger@nps.gov](mailto:paul_burger@nps.gov)" <[paul\\_burger@nps.gov](mailto:paul_burger@nps.gov)>, "[virgilio.maisonet-montanez@boem.gov](mailto:virgilio.maisonet-montanez@boem.gov)" <[virgilio.maisonet-montanez@boem.gov](mailto:virgilio.maisonet-montanez@boem.gov)>, "[wroble.julie@epa.gov](mailto:wroble.julie@epa.gov)" <[wroble.julie@epa.gov](mailto:wroble.julie@epa.gov)>, "[brooke\\_merrell@nps.gov](mailto:brooke_merrell@nps.gov)" <[brooke\\_merrell@nps.gov](mailto:brooke_merrell@nps.gov)>, "[John\\_Notar@nps.gov](mailto:John_Notar@nps.gov)" <[John\\_Notar@nps.gov](mailto:John_Notar@nps.gov)>, "[brad.c.thomas@conocophillips.com](mailto:brad.c.thomas@conocophillips.com)" <[brad.c.thomas@conocophillips.com](mailto:brad.c.thomas@conocophillips.com)>, "[talexander@blm.gov](mailto:talexander@blm.gov)" <[talexander@blm.gov](mailto:talexander@blm.gov)>, "[Mike.Barna@colostate.edu](mailto:Mike.Barna@colostate.edu)" <[Mike.Barna@colostate.edu](mailto:Mike.Barna@colostate.edu)>, "[rboyd@blm.gov](mailto:rboyd@blm.gov)" <[rboyd@blm.gov](mailto:rboyd@blm.gov)>, "[ccoulter@blm.gov](mailto:ccoulter@blm.gov)" <[ccoulter@blm.gov](mailto:ccoulter@blm.gov)>, "[kquinones@blm.gov](mailto:kquinones@blm.gov)" <[kquinones@blm.gov](mailto:kquinones@blm.gov)>, Robert Newman <[rnewman@zephyrenv.com](mailto:rnewman@zephyrenv.com)>, "[dem@alpinegeophysics.com](mailto:dem@alpinegeophysics.com)" <[dem@alpinegeophysics.com](mailto:dem@alpinegeophysics.com)>, "[Paula.Fields@erg.com](mailto:Paula.Fields@erg.com)" <[Paula.Fields@erg.com](mailto:Paula.Fields@erg.com)>, "[Marty.Wolf@erg.com](mailto:Marty.Wolf@erg.com)" <[Marty.Wolf@erg.com](mailto:Marty.Wolf@erg.com)>, Austin O'Kelly <[aokelly@zephyrenv.com](mailto:aokelly@zephyrenv.com)>

Conference Call/Skype Meeting is scheduled for 3:30 pm MT on January 10, 2018



Call-in Number: b5-CIP ; Conf Pin: b5-CIP ; Participant Pin: b5-CIP

**Roger Brower** | Principal

Zephyr Environmental Corporation

[10440 Little Patuxent Parkway, Ste 750 | Columbia, MD 21044](#)

Direct: 410.312.7907 | [rbrower@zephyrenv.com](mailto:rbrower@zephyrenv.com)

[ZephyrEnv.com](#) | [HazMatAcademy.com](#)

--  
*Angela Matz, Ph.D.*  
*U.S. Fish and Wildlife Service*  
*4700 BLM Road Anchorage, AK 99507-2546*  
[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)  
Phone: 907-271-2778 Cell: 907-750-8527  
Fax: 907-271-2786 Toll Free: 1-800-272-4174

--  
*Angela Matz, Ph.D.*  
*U.S. Fish and Wildlife Service*  
*4700 BLM Road Anchorage, AK 99507-2546*  
[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)  
Phone: 907-271-2778 Cell: 907-750-8527  
Fax: 907-271-2786 Toll Free: 1-800-272-4174

**From:** [Wendy Loya](#)  
**To:** [Angela Matz](#)  
**Cc:** [Mark Miller](#)  
**Subject:** RE: FW: NS-RAQM Call/Presentation (possible info for 1002 Air Quality studies)  
**Date:** Wednesday, January 10, 2018 4:39:33 PM

---

Angela,

Seems like that was perfect timing! Thanks Mark for helping make the connection.

Wendy ☺

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Matz, Angela [mailto:[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)]  
**Sent:** Wednesday, January 10, 2018 2:32 PM  
**To:** Wendy Loya  
**Cc:** Mark Miller; John Martin  
**Subject:** Re: FW: NS-RAQM Call/Presentation (possible info for 1002 Air Quality studies)

Hello everyone,

The attached ppt contains the presentation from today, plus my notes in very small font, but here's a summary:

BLM is funding a review and update of the recent BOEM North Slope Air quality modeling study, to include more recent data (if possible) and a refinement of the modeling scheme used by BOEM. The work has an ambitious schedule, to be completed by 10/30/19. They mentioned Arctic NWR, so that is on BLM's mind; this work will include resource impacts analysis.

Of use to our current data call are the names of fws air quality people, included on the email notice, who I will list on the template and contact for their assistance. I have spoken with Catherine Collins on other projects.

Let me know if you have any other questions regarding this conference call.

Thanks,

Angela

On Wed, Jan 10, 2018 at 9:10 AM, Matz, Angela <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)> wrote:  
Hi Wendy, Mark, and John,

I can call in to this meeting. I'll take notes and provide them to all of you.

Thank you,

Angela

On Wed, Jan 10, 2018 at 8:36 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Good morning Angela,

Mark Miller with the North Slope Science Initiative just passed along this announcement for a north slope Air Quality meeting that is later today. I believe you told me at the end of Monday's meeting that you would be tackling this issue with contaminants, so passing this along. Forgive me if I am overlooking your name on the original list. I just see Tim Allen with FWS.

Let us know if you can't be on this call at 130pm AK time/330 MT time but would like to have notes from it and I can call in.

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]  
**Sent:** Wednesday, January 10, 2018 8:10 AM  
**To:** Martin, John; Wendy M. Loya, PhD  
**Cc:** Doug Damberg  
**Subject:** Fwd: NS-RAQM Call/Presentation

John, Wendy -

This information pertains to a call scheduled for later today, the subject of which is a new regional air quality being developed for the North Slope. I understand that Wendy / Arctic LCC was identified as the interim POC for 1002 air quality. Note that there are a few FWS staff on the invitation list for this call - perhaps they may be other candidates for the 1002 air quality team.

I just shared the calendar invitation with Wendy.

Mark

---

Mark E. Miller, PhD | Deputy Director  
North Slope Science Initiative | <http://www.NorthSlopeScience.org>  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
[222 West 7th Avenue, #13](#) | [Anchorage, AK 99513](#)

---

"We are drowning in information, while starving for wisdom. The world henceforth

0000006746

will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

----- Forwarded message -----

From: **Roger Brower** <[RBrower@zephyrenv.com](mailto:RBrower@zephyrenv.com)>

Date: Wed, Jan 3, 2018 at 11:59 AM

Subject: NS-RAQM Call/Presentation

To: "[heather.crowley@boem.gov](mailto:heather.crowley@boem.gov)" <[heather.crowley@boem.gov](mailto:heather.crowley@boem.gov)>, "[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)" <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, "[memiller@blm.gov](mailto:memiller@blm.gov)" <[memiller@blm.gov](mailto:memiller@blm.gov)>, "[s05mcint@blm.gov](mailto:s05mcint@blm.gov)" <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, "[cnicholl@blm.gov](mailto:cnicholl@blm.gov)" <[cnicholl@blm.gov](mailto:cnicholl@blm.gov)>, "[catherine.collins@fws.gov](mailto:catherine.collins@fws.gov)" <[catherine.collins@fws.gov](mailto:catherine.collins@fws.gov)>, "[curtis.jennifer@epa.gov](mailto:curtis.jennifer@epa.gov)" <[curtis.jennifer@epa.gov](mailto:curtis.jennifer@epa.gov)>, "[deanna.huff@alaska.gov](mailto:deanna.huff@alaska.gov)" <[deanna.huff@alaska.gov](mailto:deanna.huff@alaska.gov)>, "[barbara.trost@alaska.gov](mailto:barbara.trost@alaska.gov)" <[barbara.trost@alaska.gov](mailto:barbara.trost@alaska.gov)>, "[baanderson02@fs.fed.us](mailto:baanderson02@fs.fed.us)" <[baanderson02@fs.fed.us](mailto:baanderson02@fs.fed.us)>, "[lgeiser@fs.fed.us](mailto:lgeiser@fs.fed.us)" <[lgeiser@fs.fed.us](mailto:lgeiser@fs.fed.us)>, "[andrea.stacy@nps.gov](mailto:andrea.stacy@nps.gov)" <[andrea.stacy@nps.gov](mailto:andrea.stacy@nps.gov)>, "[srice@blm.gov](mailto:srice@blm.gov)" <[srice@blm.gov](mailto:srice@blm.gov)>, "[tamara.mccandless@fws.gov](mailto:tamara.mccandless@fws.gov)" <[tamara.mccandless@fws.gov](mailto:tamara.mccandless@fws.gov)>, "[mcalpine.jay@epa.gov](mailto:mcalpine.jay@epa.gov)" <[mcalpine.jay@epa.gov](mailto:mcalpine.jay@epa.gov)>, "[kpeck@blm.gov](mailto:kpeck@blm.gov)" <[kpeck@blm.gov](mailto:kpeck@blm.gov)>, "[tim.allen@fws.gov](mailto:tim.allen@fws.gov)" <[tim.allen@fws.gov](mailto:tim.allen@fws.gov)>, "[pepple.karl@epa.gov](mailto:pepple.karl@epa.gov)" <[pepple.karl@epa.gov](mailto:pepple.karl@epa.gov)>, "[denise.koch@alaska.gov](mailto:denise.koch@alaska.gov)" <[denise.koch@alaska.gov](mailto:denise.koch@alaska.gov)>, "[vaughan.molly@epa.gov](mailto:vaughan.molly@epa.gov)" <[vaughan.molly@epa.gov](mailto:vaughan.molly@epa.gov)>, "[kirsten.king@nps.gov](mailto:kirsten.king@nps.gov)" <[kirsten.king@nps.gov](mailto:kirsten.king@nps.gov)>, "[dmaxwell@blm.gov](mailto:dmaxwell@blm.gov)" <[dmaxwell@blm.gov](mailto:dmaxwell@blm.gov)>, "[mark.storzer@boem.gov](mailto:mark.storzer@boem.gov)" <[mark.storzer@boem.gov](mailto:mark.storzer@boem.gov)>, "[carol.mccoy@nps.gov](mailto:carol.mccoy@nps.gov)" <[carol.mccoy@nps.gov](mailto:carol.mccoy@nps.gov)>, "[martin.gayle@epa.gov](mailto:martin.gayle@epa.gov)" <[martin.gayle@epa.gov](mailto:martin.gayle@epa.gov)>, "[paul.burger@nps.gov](mailto:paul.burger@nps.gov)" <[paul.burger@nps.gov](mailto:paul.burger@nps.gov)>, "[virgilio.maisonet-montanez@boem.gov](mailto:virgilio.maisonet-montanez@boem.gov)" <[virgilio.maisonet-montanez@boem.gov](mailto:virgilio.maisonet-montanez@boem.gov)>, "[wroble.julie@epa.gov](mailto:wroble.julie@epa.gov)" <[wroble.julie@epa.gov](mailto:wroble.julie@epa.gov)>, "[brooke.merrell@nps.gov](mailto:brooke.merrell@nps.gov)" <[brooke.merrell@nps.gov](mailto:brooke.merrell@nps.gov)>, "[John.Notar@nps.gov](mailto:John.Notar@nps.gov)" <[John.Notar@nps.gov](mailto:John.Notar@nps.gov)>, "[brad.c.thomas@conocophillips.com](mailto:brad.c.thomas@conocophillips.com)" <[brad.c.thomas@conocophillips.com](mailto:brad.c.thomas@conocophillips.com)>, "[talexander@blm.gov](mailto:talexander@blm.gov)" <[talexander@blm.gov](mailto:talexander@blm.gov)>, "[Mike.Barna@colostate.edu](mailto:Mike.Barna@colostate.edu)" <[Mike.Barna@colostate.edu](mailto:Mike.Barna@colostate.edu)>, "[rboyd@blm.gov](mailto:rboyd@blm.gov)" <[rboyd@blm.gov](mailto:rboyd@blm.gov)>, "[ccoulter@blm.gov](mailto:ccoulter@blm.gov)" <[ccoulter@blm.gov](mailto:ccoulter@blm.gov)>, "[kquinones@blm.gov](mailto:kquinones@blm.gov)" <[kquinones@blm.gov](mailto:kquinones@blm.gov)>, Robert Newman <[rnewman@zephyrenv.com](mailto:rnewman@zephyrenv.com)>, "[dem@alpinegeophysics.com](mailto:dem@alpinegeophysics.com)" <[dem@alpinegeophysics.com](mailto:dem@alpinegeophysics.com)>, "[Paula.Fields@erg.com](mailto:Paula.Fields@erg.com)" <[Paula.Fields@erg.com](mailto:Paula.Fields@erg.com)>, "[Marty.Wolf@erg.com](mailto:Marty.Wolf@erg.com)" <[Marty.Wolf@erg.com](mailto:Marty.Wolf@erg.com)>, Austin O'Kelly <[aokelly@zephyrenv.com](mailto:aokelly@zephyrenv.com)>

Conference Call/Skype Meeting is scheduled for 3:30 pm MT on January 10, 2018

Call-in Number: **85-CIP** ; Conf Pin: **85-CIP** ; Participant Pin: **85-CIP**

**Roger Brower** | Principal  
Zephyr Environmental Corporation  
10440 Little Patuxent Parkway, Ste 750 | Columbia, MD 21044  
Direct: 410.312.7907 | [rbrower@zephyrenv.com](mailto:rbrower@zephyrenv.com)  
[ZephyrEnv.com](http://ZephyrEnv.com) | [HazMatAcademy.com](http://HazMatAcademy.com)

0000006747

--

Angela Matz, Ph.D.  
U.S. Fish and Wildlife Service  
4700 BLM Road Anchorage, AK 99507-2546  
[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)  
Phone: 907-271-2778 Cell: 907-750-8527  
Fax: 907-271-2786 Toll Free: 1-800-272-4174

--

Angela Matz, Ph.D.  
U.S. Fish and Wildlife Service  
4700 BLM Road Anchorage, AK 99507-2546  
[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)  
Phone: 907-271-2778 Cell: 907-750-8527  
Fax: 907-271-2786 Toll Free: 1-800-272-4174

**From:** [Miller, Mark](#)  
**To:** [Matz, Angela](#)  
**Cc:** [Wendy Loya](#); [John Martin](#)  
**Subject:** Re: FW: NS-RAQM Call/Presentation (possible info for 1002 Air Quality studies)  
**Date:** Wednesday, January 10, 2018 4:40:34 PM

---

Angela - glad you were able to participate in the call.

I spoke briefly with the BLM Air Program lead for the Alaska, Alan Peck ([kpeck@blm.gov](mailto:kpeck@blm.gov), copied here), about the 1002 resource information request. He agreed to serve as an additional source of information re availability / needs for North Slope air quality information.

Mark

---

Mark E. Miller, PhD | Deputy Director  
North Slope Science Initiative | <http://www.NorthSlopeScience.org>  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

On Wed, Jan 10, 2018 at 2:32 PM, Matz, Angela <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)> wrote:

Hello everyone,

The attached ppt contains the presentation from today, plus my notes in very small font, but here's a summary:

BLM is funding a review and update of the recent BOEM North Slope Air quality modeling study, to include more recent data (if possible) and a refinement of the modeling scheme used by BOEM. The work has an ambitious schedule, to be completed by 10/30/19. They mentioned Arctic NWR, so that is on BLM's mind; this work will include resource impacts analysis.

Of use to our current data call are the names of fws air quality people, included on the email notice, who I will list on the template and contact for their assistance. I have spoken with Catherine Collins on other projects.

Let me know if you have any other questions regarding this conference call.

Thanks,

Angela

On Wed, Jan 10, 2018 at 9:10 AM, Matz, Angela <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)> wrote:

Hi Wendy, Mark, and John,

I can call in to this meeting. I'll take notes and provide them to all of you.

Thank you,

Angela

On Wed, Jan 10, 2018 at 8:36 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Good morning Angela,

Mark Miller with the North Slope Science Initiative just passed along this announcement for a north slope Air Quality meeting that is later today. I believe you told me at the end of Monday's meeting that you would be tackling this issue with contaminants, so passing this along. Forgive me if I am overlooking your name on the original list. I just see Tim Allen with FWS.

Let us know if you can't be on this call at 130pm AK time/330 MT time but would like to have notes from it and I can call in.

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]

**Sent:** Wednesday, January 10, 2018 8:10 AM

**To:** Martin, John; Wendy M. Loya, PhD

**Cc:** Doug Damberg

**Subject:** Fwd: NS-RAQM Call/Presentation

John, Wendy -

This information pertains to a call scheduled for later today, the subject of which is a new regional air quality being developed for the North Slope. I understand that Wendy / Arctic LCC was identified as the interim POC for 1002 air quality. Note that there are a few FWS staff on the invitation list for this call - perhaps they may be other candidates for the 1002 air quality team.

I just shared the calendar invitation with Wendy.

Mark

---

Mark E. Miller, PhD | Deputy Director

North Slope Science Initiative | <http://www.NorthSlopeScience.org>

Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427

c/o Bureau of Land Management | Alaska State Office | State Director's Office

[222 West 7th Avenue, #13 | Anchorage, AK 99513](#)

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

----- Forwarded message -----

From: **Roger Brower** <[RBrower@zephyrenv.com](mailto:RBrower@zephyrenv.com)>

Date: Wed, Jan 3, 2018 at 11:59 AM

Subject: NS-RAQM Call/Presentation

To: "[heather.crowley@boem.gov](mailto:heather.crowley@boem.gov)" <[heather.crowley@boem.gov](mailto:heather.crowley@boem.gov)>, "[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)" <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, "[memiller@blm.gov](mailto:memiller@blm.gov)" <[memiller@blm.gov](mailto:memiller@blm.gov)>, "[s05mcint@blm.gov](mailto:s05mcint@blm.gov)" <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, "[cnicholl@blm.gov](mailto:cnicholl@blm.gov)" <[cnicholl@blm.gov](mailto:cnicholl@blm.gov)>, "[catherine.collins@fws.gov](mailto:catherine.collins@fws.gov)" <[catherine.collins@fws.gov](mailto:catherine.collins@fws.gov)>, "[curtis.jennifer@epa.gov](mailto:curtis.jennifer@epa.gov)" <[curtis.jennifer@epa.gov](mailto:curtis.jennifer@epa.gov)>, "[deanna.huff@alaska.gov](mailto:deanna.huff@alaska.gov)" <[deanna.huff@alaska.gov](mailto:deanna.huff@alaska.gov)>, "[barbara.trost@alaska.gov](mailto:barbara.trost@alaska.gov)" <[barbara.trost@alaska.gov](mailto:barbara.trost@alaska.gov)>, "[baanderson02@fs.fed.us](mailto:baanderson02@fs.fed.us)" <[baanderson02@fs.fed.us](mailto:baanderson02@fs.fed.us)>, "[lgeiser@fs.fed.us](mailto:lgeiser@fs.fed.us)" <[lgeiser@fs.fed.us](mailto:lgeiser@fs.fed.us)>, "[andrea.stacy@nps.gov](mailto:andrea.stacy@nps.gov)" <[andrea.stacy@nps.gov](mailto:andrea.stacy@nps.gov)>, "[srice@blm.gov](mailto:srice@blm.gov)" <[srice@blm.gov](mailto:srice@blm.gov)>, "[tamara.mccandless@fws.gov](mailto:tamara.mccandless@fws.gov)" <[tamara.mccandless@fws.gov](mailto:tamara.mccandless@fws.gov)>, "[mc Alpine.jay@epa.gov](mailto:mc Alpine.jay@epa.gov)" <[mc Alpine.jay@epa.gov](mailto:mc Alpine.jay@epa.gov)>, "[kpeck@blm.gov](mailto:kpeck@blm.gov)" <[kpeck@blm.gov](mailto:kpeck@blm.gov)>, "[tim.allen@fws.gov](mailto:tim.allen@fws.gov)" <[tim.allen@fws.gov](mailto:tim.allen@fws.gov)>, "[pepple.karl@epa.gov](mailto:pepple.karl@epa.gov)" <[pepple.karl@epa.gov](mailto:pepple.karl@epa.gov)>, "[denise.koch@alaska.gov](mailto:denise.koch@alaska.gov)" <[denise.koch@alaska.gov](mailto:denise.koch@alaska.gov)>, "[vaughan.molly@epa.gov](mailto:vaughan.molly@epa.gov)" <[vaughan.molly@epa.gov](mailto:vaughan.molly@epa.gov)>, "[kirsten.king@nps.gov](mailto:kirsten.king@nps.gov)" <[kirsten.king@nps.gov](mailto:kirsten.king@nps.gov)>, "[dmaxwell@blm.gov](mailto:dmaxwell@blm.gov)" <[dmaxwell@blm.gov](mailto:dmaxwell@blm.gov)>, "[mark.storzer@boem.gov](mailto:mark.storzer@boem.gov)" <[mark.storzer@boem.gov](mailto:mark.storzer@boem.gov)>, "[carol.mccoy@nps.gov](mailto:carol.mccoy@nps.gov)" <[carol.mccoy@nps.gov](mailto:carol.mccoy@nps.gov)>, "[martin.gayle@epa.gov](mailto:martin.gayle@epa.gov)" <[martin.gayle@epa.gov](mailto:martin.gayle@epa.gov)>, "[paul.burger@nps.gov](mailto:paul.burger@nps.gov)" <[paul.burger@nps.gov](mailto:paul.burger@nps.gov)>, "[virgilio.maisonet-montanez@boem.gov](mailto:virgilio.maisonet-montanez@boem.gov)" <[virgilio.maisonet-montanez@boem.gov](mailto:virgilio.maisonet-montanez@boem.gov)>, "[wroble.julie@epa.gov](mailto:wroble.julie@epa.gov)" <[wroble.julie@epa.gov](mailto:wroble.julie@epa.gov)>, "[brooke.merrell@nps.gov](mailto:brooke.merrell@nps.gov)" <[brooke.merrell@nps.gov](mailto:brooke.merrell@nps.gov)>, "[John.Notar@nps.gov](mailto:John.Notar@nps.gov)" <[John.Notar@nps.gov](mailto:John.Notar@nps.gov)>, "[brad.c.thomas@conocophillips.com](mailto:brad.c.thomas@conocophillips.com)" <[brad.c.thomas@conocophillips.com](mailto:brad.c.thomas@conocophillips.com)>, "[talexander@blm.gov](mailto:talexander@blm.gov)" <[talexander@blm.gov](mailto:talexander@blm.gov)>, "[Mike.Barna@colostate.edu](mailto:Mike.Barna@colostate.edu)" <[Mike.Barna@colostate.edu](mailto:Mike.Barna@colostate.edu)>, "[rboyd@blm.gov](mailto:rboyd@blm.gov)"



<[rboyd@blm.gov](mailto:rboyd@blm.gov)>, "[ccoulter@blm.gov](mailto:ccoulter@blm.gov)" <[ccoulter@blm.gov](mailto:ccoulter@blm.gov)>, "[kquinones@blm.gov](mailto:kquinones@blm.gov)" <[kquinones@blm.gov](mailto:kquinones@blm.gov)>, Robert Newman <[rnewman@zephyrenv.com](mailto:rnewman@zephyrenv.com)>, "[dem@alpinegeophysics.com](mailto:dem@alpinegeophysics.com)" <[dem@alpinegeophysics.com](mailto:dem@alpinegeophysics.com)>, "[Paula.Fields@erg.com](mailto:Paula.Fields@erg.com)" <[Paula.Fields@erg.com](mailto:Paula.Fields@erg.com)>, "[Marty.Wolf@erg.com](mailto:Marty.Wolf@erg.com)" <[Marty.Wolf@erg.com](mailto:Marty.Wolf@erg.com)>, Austin O'Kelly <[aokelly@zephyrenv.com](mailto:aokelly@zephyrenv.com)>

Conference Call/Skype Meeting is scheduled for 3:30 pm MT on January 10, 2018

Call-in Number: 65-CIP; Conf Pin: 65-CIP; Participant Pin: 65-CIP

**Roger Brower** | Principal

Zephyr Environmental Corporation

[10440 Little Patuxent Parkway, Ste 750 | Columbia, MD 21044](#)

Direct: 410.312.7907 | [rbrower@zephyrenv.com](mailto:rbrower@zephyrenv.com)

[ZephyrEnv.com](#) | [HazMatAcademy.com](#)

--  
*Angela Matz, Ph.D.*  
U.S. Fish and Wildlife Service  
4700 BLM Road Anchorage, AK 99507-2546  
[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)  
Phone: 907-271-2778 Cell: 907-750-8527  
Fax: 907-271-2786 Toll Free: 1-800-272-4174

--

Angela Matz, Ph.D.  
U.S. Fish and Wildlife Service  
4700 BLM Road Anchorage, AK 99507-2546  
[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)  
Phone: 907-271-2778 Cell: 907-750-8527  
Fax: 907-271-2786 Toll Free: 1-800-272-4174

**From:** [Martin, John](#)  
**To:** [Arthur, Stephen](#)  
**Cc:** [Wendy Loya](#); [Mark Miller](#); [Tracy Fischbach](#); [Steve Berendzen](#); [Paul Leonard](#); [Stephanie Brady](#); [David Payer](#); [Joanna Fox](#); [John Pearce](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Wednesday, January 10, 2018 4:57:31 PM  
**Attachments:** [Seismic Exploration & Noise Impacts to Wildlife in Northern Alaska 26Sep2017.docx](#)  
[Caribou Annotated Literature 10Jan2018.docx](#)  
[Caribou Impact Analysis Workshop 1985.pdf](#)

---

All

Attached is a "noise" annotated literature review is pretty shallow and was created for another purpose than the coastal plain, but may prove a basis for further literature synthesis.

Also attached is a 1985 caribou impact analysis based on the then, forecasted full-build out of the 1002 area that may have some useful tidbits for conceptual caribou modeling in relationship to oil & gas development for 2018 and an uncertain future. I believe the format could provide a platform if updated. I have no doubt that climate change was not factored into this approach - by the authors admission, nor were cumulative effects. My own caribou annotated literature review is attached, again for another purpose than the coastal plain.

Thanks

John

On Tue, Jan 9, 2018 at 2:09 PM, Arthur, Stephen <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)> wrote:

Wendy,

I agree noise is likely to be a factor in the human dimensions realm, and perhaps there could be wildlife impacts as well. I don't know of any FWS work in this field. NPS has an active program in soundscape monitoring, Davyd Betchkal is the program lead for Alaska (email: [davyd\\_betchkal@nps.gov](mailto:davyd_betchkal@nps.gov)). He would be a good contact for setting something up.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
[101 12th Ave., Room 236](#)  
[Fairbanks, AK 99701](#)  
[\(907\)455-1830](#)*

On Tue, Jan 9, 2018 at 1:48 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

John, Tracy, Steve and Steve,

Mark Miller, the Deputy Director for the North Slope Science Initiative, has experience in

0000006754

identifying noise and acoustical environment issues from recent work in NPRA. Given the potential proximity of exploration and development activities to Kaktovik and for potential disturbance to wildlife, this does seem like a topic of importance for FWS to consider for the 1002 area. Do we have any staff with expertise in this area regionally for Mark to collaborate/consult with?

If not, probably the best course of action is for Tracy and Mark to touch base since Tracy is handling most of the human dimensions work. Filling out the template to identify decisions that will need to be made that involve an understanding of noise disturbance and the science needed to make those could certainly be built of knowledge and expertise from NPRA and also looking to the Pt Thompson EIS.

I'll add in that NSSI also has a technical working group to address aircraft disturbance, especially to hunters. This has been one of the primary complaints from Nuiqsut (which is a staging location for science to support development and central to development and operations activities at Alpine and NPRA, and which BLM and Industry have partnered to try to address.

Alternative suggestions or confirmation that this is a reasonable approach?

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]

**Sent:** Tuesday, January 09, 2018 1:23 PM

**To:** Wendy M. Loya, PhD

**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

Thanks for poking me on the noise topic. On reflection, I do think that I should suggest

noise or acoustical environment as an explicit topic after all, given its prominence as a factor that is perceived to impact subsistence resources and activities in NPRA. May I ask you to assist me in identifying an appropriate FWS colleague who might join me in working on this?

m

---

Mark E. Miller, PhD | Deputy Director

North Slope Science Initiative | <http://www.NorthSlopeScience.org>

Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427

c/o Bureau of Land Management | Alaska State Office | State Director's Office

[222 West 7th Avenue, #13 | Anchorage, AK 99513](#)

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

----- Forwarded message -----

From: **Henszey, Bob** <[bob\\_henszey@fws.gov](mailto:bob_henszey@fws.gov)>

Date: Tue, Jan 9, 2018 at 1:03 PM

Subject: Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

To: "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

Cc: Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, "Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>, Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>, "Putnam, Christopher" <[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, Sarah Conn <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)>, Edward Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell <[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Greta Burkart <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>, Janet Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>, Richard Lanctot <[richard\\_lanctot@fws.gov](mailto:richard_lanctot@fws.gov)>, Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>, Angela Matz <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Randy Brown <[randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov)>, Hollis Twitchell <[hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)>, Kaithryn Ott <[kaithryn\\_ott@fws.gov](mailto:kaithryn_ott@fws.gov)>, Margaret Perdue <[margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov)>, Joshua Rose <[joshua\\_rose@fws.gov](mailto:joshua_rose@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, David

Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Todd Atwood <[tatwood@usgs.gov](mailto:tatwood@usgs.gov)>, Bruce Richmond <[brichmond@usgs.gov](mailto:brichmond@usgs.gov)>, Li Erikson <[lerikson@usgs.gov](mailto:lerikson@usgs.gov)>, Ann Gibbs <[agibbs@usgs.gov](mailto:agibbs@usgs.gov)>, Guy Gelfenbaum <[ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov)>, Heather Johnson <[heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)>, Frank Urban <[furban@usgs.gov](mailto:furban@usgs.gov)>, Robert Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stacie McIntosh <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>, "Nichelle (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Eric Geisler <[egeisler@blm.gov](mailto:egeisler@blm.gov)>, David Payer <[david.payer@nps.gov](mailto:david.payer@nps.gov)>, "Sara W (DNR)" <[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>, Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem <[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>, Louise Smith <[Louise\\_Smith@fws.gov](mailto:Louise_Smith@fws.gov)>

All,

The Point Thomson EIS is probably a better rough model for a 1002 EIS than the Draft Liberty Island EIS currently working its way through the approval process. ARLIS has a copy of the Point Thomson EIS found at the link below, and I've attached the Record of Decision (ROD) for the EIS.

Bob

ARLIS (<http://www.arlis.org/thepipefiles/Record/1479758>) has the EIS.

---

Robert J. Henszey, Ph.D.

Branch Chief

Planning and Consultation

US Fish & Wildlife Service

[101 12th Avenue, Room 110](#)

[Fairbanks, AK 99701](#)

Phone: 907-456-0323, Fax: 907-456-0208

[Bob\\_Henszey@fws.gov](mailto:Bob_Henszey@fws.gov)

*"Water Always Wins," Dr. Who 2009.11.15*

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

## **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.

2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).

3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.

4. The 7 volumes of the NPRA EIS may be located at  
<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>

5. The 2015 Arctic Refuge CCP may be located at  
<https://www.fws.gov/home/arctic-ccp>

The ROD is attached.



**From:** [Erikson, Li](#)  
**To:** [Loya, Wendy](#)  
**Subject:** Re: Report and data for Arctic LCC 2011-02  
**Date:** Wednesday, January 10, 2018 6:06:43 PM

---

It is in with our publishing office. So close...  
I'll keep you posted.

In the meantime, I've uploaded it for you at the following ftp site.

<ftp://ftpext.usgs.gov/pub/wr/ca/santa.cruz/Erikson/forWendyLoya/>

Since it is not official yet, please only distribute with discretion.

Thank you,

Li

On Wed, Jan 10, 2018 at 2:35 PM, Loya, Wendy <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Li,

Is this report available yet? Would be great to include in the list of studies for the 1002 assessment we are doing at FWS.

Thanks,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.277.2942 (mobile)

----- Forwarded message -----

From: **Loya, Wendy** <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
Date: Thu, Sep 14, 2017 at 1:42 PM  
Subject: Re: Report and data for Arctic LCC 2011-02  
To: "Erikson, Li" <[lerikson@usgs.gov](mailto:lerikson@usgs.gov)>

Hi Li,

Do you have a copy or link to the Arctic LCC funded report you had planned to complete earlier this year?

I also see in the notes for your project that are two data deliverables we have not received:

Discussion of 1/22/2013 clarifies that the spatial data shall consist of map files (ESRI ArcMap and GoogleEarth). Maps will show decadal averages for the annual (open water season) number of flooding days based on simulations forced with wind and sea level pressures derived from the MIROC5 GCM, scenario rcp4.5.

Discussion of 1/22/2013 clarifies that the spatial data shall consist of map files (ESRI ArcMap and GoogleEarth) showing barrier island migration.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.277.2942 (mobile)

On Mon, Apr 17, 2017 at 3:08 PM, Erikson, Li <[lerikson@usgs.gov](mailto:lerikson@usgs.gov)> wrote:

Great - very glad to hear that it may come to actual use.

The report is aimed to go on the web as a USGS "Open-File-Report" (with financial and author contribution credits to FWS).

Thanks,

Li

On Mon, Apr 17, 2017 at 3:57 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Awesome! That sounds great and appreciate that you had kept the report moving forward.

Look forward to the report, did not realize it would be published via a publishing office. We have a new landscape ecologist on board as our Science Coordinator and hoping to inform future modeling with this work.

Thanks,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Erikson, Li [mailto:[lerikson@usgs.gov](mailto:lerikson@usgs.gov)]  
**Sent:** Monday, April 17, 2017 2:55 PM  
**To:** Wendy Loya  
**Subject:** Re: Report and data for Arctic LCC 2011-02

Hi Wendy,

Very timely (unlike me ;) ). I just received (1 hour ago) the last round of internal reviews. We will finish it up in the coming days and send in to our publishing office. I will keep you posted.

Thanks,

Li

On Mon, Apr 17, 2017 at 3:52 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Li,

Stacey Lowe, who was on detail to the Arctic LCC, contacted you last fall about completing the work you were contracted to do for the Arctic LCC on Barrier Island-Lagoon Systems. I believe you told her we might expect a revised report from you in January 2017. We would very much like to get that report and be able to integrate the information into new landscape analyses.

Can you provide me with a response with an updated return date? It looks like the comments on the draft report were returned to you in 8/2013 so hopefully that has been enough time to address the key elements ☺

Thanks, feel free to call if you'd like to chat about the project.

Best regards,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

-----  
Li Erikson, PhD

Research Oceanographer & Coastal Engineer

USGS Pacific Coastal and Marine Science Center

[2885 Mission Street](#)

[Santa Cruz, CA 95060](#)-5792

831-460-7563

--

-----  
Li Erikson, PhD

Research Oceanographer & Coastal Engineer

USGS Pacific Coastal and Marine Science Center

[2885 Mission Street](#)

[Santa Cruz, CA 95060](#)-5792

831-460-7563

--

---

Li Erikson, PhD  
Research Oceanographer & Coastal Engineer  
USGS Pacific Coastal and Marine Science Center  
2885 Mission Street  
Santa Cruz, CA 95060-5792  
831-460-7563

**From:** [Burkart, Greta](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Stephen Arthur](#); [Christopher Latty](#); [Steve Berendzen](#); [Paul Leonard](#); [John Trawicki](#); [Janet Jorgenson](#)  
**Subject:** Re: Any info from Janet about 1002 vegetation/landscape studies needed?  
**Date:** Wednesday, January 10, 2018 9:26:27 AM

---

Hi Wendy,

In addition to the vegetation surveys you mentioned, assessing vegetation community composition and extent of wet sedge meadows around lakes would also be important. These zones are important to many water bird species and will likely be impacted by water withdrawal in lakes, especially if lakes are not fully recharged at snow melt. Keith Bayha 1996 studied over one-hundred of the largest lakes in the Refuge mapping elevation of the lakes and associated wet meadow zones with a 2-cm resolution. Redoing these surveys before and after water withdrawal would allow for an assessment of impacts of exploration and development and could also offer insights on the effects of past climate change on wet meadow zones. To my knowledge, these studies have never been done in NPR-A; thus, if there have been long-term impacts they would have gone unnoticed.

As far as I know riparian areas in the 1002 area have never been studied. Surveys to assess community composition and vegetation height could help identify and protect certain areas that may be more sensitive to the low impact vehicles and the much more damaging camp moves. At a minimum, vegetation surveys near springs should be conducted as these areas may be more sensitive to development as a relatively large thaw bulb may be present near springs and vegetation height may be relatively high.

Thanks,

Greta

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
101 12 th Ave Rm 236  
Fairbanks, AK 99701  
ph: (907) 456-0519  
fax: (907) 456-0428  
email: [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)  
[www.facebook.com/arcticnationalwildliferefuge](https://www.facebook.com/arcticnationalwildliferefuge)

On Mon, Jan 8, 2018 at 4:15 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Steve A , Greta, Chris, and Steve B

I wanted to check in with you and see if Janet has shared any of her thoughts about studies that she would like to see done with regards to vegetation or other terrestrial ecology associated with advancing exploration and development of the 1002 area?

My initial thoughts are that for the summer following winter exploration activities (e.g. seismic), the Refuge would want to follow up with some vegetation surveys to observe whether there had been adequate snowcover to protect vegetation and soils where low-ground pressure vehicles are used and similarly where any ice pads or other staging might have occurred. I'll look to her 2010 publication to flesh that out and identify science gaps that could have helped mitigate damage observed

Just a couple of FYI's:

Arctic LCC supported development of an updated landform map for the wetlands of the entire Arctic Coastal Plain (although the 1002 area covers more than the lowland wetland types that were the focus). This work was done as part of an effort to describe thermokarst potential and model future active layer depths and thus landform transformation. I'll attach a poster (Lara ACP Mapping Presentation) that describes this work and Paul has the GIS data produced.

We also have a report by Torre Jorgensen on Permafrost mapping for the north slope and while not at a scale for industrial applications, that will be useful for the soils and permafrost assessment. It is not a huge file, so I will also attach it in case it can help with any hydrology or habitat descriptions you all may be working on.

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** [Leonard, Paul](#)  
**To:** [Wendy Loya](#)  
**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Thursday, January 11, 2018 1:05:58 PM  
**Attachments:** [State of Alaska O&G Res Eval Proposal for 1002 Area ANWR 2013.pdf](#)  
[USACE ROD Point Thompson Oct2012.pdf](#)  
[Coastal Plain 1002 Area Interdisciplinary Info Request UPDATED wRPT OUTLINE 9Jan2018v6.docx](#)  
[Literature Cited updated 4 Jan 2018.docx](#)  
[ROD Revised CCP Arctic NWR Apr2015.pdf](#)

---

coastal plain attachment....

----- Forwarded message -----

**From:** **Martin, John** <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
**Date:** Tue, Jan 9, 2018 at 9:33 AM  
**Subject:** Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**To:** Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, "Cribley, Bud" <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)>, Jenifer Kohout <[jenifer\\_kohout@fws.gov](mailto:jenifer_kohout@fws.gov)>, "Putnam, Christopher" <[christopher\\_putnam@fws.gov](mailto:christopher_putnam@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>, Sarah Conn <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)>, Edward Decleva <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)>, Douglas Campbell <[douglas\\_campbell@fws.gov](mailto:douglas_campbell@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Greta Burkart <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>, Janet Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>, Richard Lanctot <[richard\\_lanctot@fws.gov](mailto:richard_lanctot@fws.gov)>, Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>, Angela Matz <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Randy Brown <[randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov)>, Bob Henszey <[bob\\_henszey@fws.gov](mailto:bob_henszey@fws.gov)>, Hollis Twitchell <[hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)>, Kaithryn Ott <[kaithryn\\_ott@fws.gov](mailto:kaithryn_ott@fws.gov)>, Margaret Perdue <[margaret\\_perdue@fws.gov](mailto:margaret_perdue@fws.gov)>, Joshua Rose <[joshua\\_rose@fws.gov](mailto:joshua_rose@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, David Houseknecht <[dhouse@usgs.gov](mailto:dhouse@usgs.gov)>, Marti Miller <[mlmiller@usgs.gov](mailto:mlmiller@usgs.gov)>, Todd Atwood <[tatwood@usgs.gov](mailto:tatwood@usgs.gov)>, Bruce Richmond <[brichmond@usgs.gov](mailto:brichmond@usgs.gov)>, Li Erikson <[lerikson@usgs.gov](mailto:lerikson@usgs.gov)>, Ann Gibbs <[agibbs@usgs.gov](mailto:agibbs@usgs.gov)>, Guy Gelfenbaum <[ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov)>, Heather Johnson <[heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov)>, Frank Urban <[furban@usgs.gov](mailto:furban@usgs.gov)>, Robert Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stacie McIntosh <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>, "Nichelle (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Eric Geisler <[egeisler@blm.gov](mailto:egeisler@blm.gov)>, David Payer <[david.payer@nps.gov](mailto:david.payer@nps.gov)>, "Sara W (DNR)" <[sara.longan@alaska.gov](mailto:sara.longan@alaska.gov)>  
**Cc:** Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Ted Swem <[ted\\_swem@fws.gov](mailto:ted_swem@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>

All

Thank you all for your participation yesterday morning to talk through the tasking to



compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development,

production and transportation. A separate literature cited is also attached.

2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).

3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.

4. The 7 volumes of the NPRA EIS may be located at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>

5. The 2015 Arctic Refuge CCP may be located at <https://www.fws.gov/home/arctic-ccp>  
The ROD is attached.

--

Paul Leonard, PhD

Science Coordinator

[Arctic LCC](#)

101 12th Ave. Room 216

Fairbanks, AK 99701

(907) 456-0445

**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [Alan Peck](#); [David Payer](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#)  
**Subject:** Coastal Plain 1002 Area, New ANILCA Language & Maps  
**Date:** Thursday, January 11, 2018 2:00:52 PM  
**Attachments:** [NEW ANILCA LANGUAGE 2018 H.R. 1 - Title II.pdf](#)  
[NEW ANILCA MAPS 2018 H.R. 1 - Title II.pdf](#)

---

All

Please find attached the most current, new language for ANILCA regarding an oil and gas program in the coastal plain 1002 area.

It is my understanding that there are errors in the map related to KCI lands and lagoons. Be advised that efforts are underway to resolve that matter.

Thanks

John

**From:** [Sarah Cook](#)  
**To:** [Wendy Loya](#)  
**Subject:** RE: Shorezone contact for Arctic info?  
**Date:** Thursday, January 11, 2018 3:13:34 PM  
**Attachments:** [northslopesummaryreport112014.pdf](#)

---

Hi Wendy,

I would be happy to work with you to give you a better idea of the work done for the ShoreZone project in the ANWR 1002 area. I have attached the summary report that was done following the imaging and mapping in that area. The imaging was a bit odd in that we used some previous imaging (from as far back as 2001) that had been collected for another purpose but also collected some new imagery in the summer of 2012. The report also outlines the ground verification work that was done for that survey. It would be great to go through the report with you and discuss what was done and the potential for further studies. I would also love to discuss the potential for Structure from Motion in the creation of DEMs and monitoring of erosion or coastline change and how we are incorporating that into the ShoreZone program. Let me know what would be a good time for you, my schedule is pretty free in the next couple weeks. I will also be up in Anchorage on February 8<sup>th</sup> and 9<sup>th</sup> for the Alaska Coastal Mapping Summit so perhaps we could have a chance to chat then as well.

Regards,

*Sarah Cook* R.P.Bio  
General Manager/Senior Biologist  
Coastal and Ocean Resources  
759A Vanalman Ave., Victoria, BC, V8Z 3B8  
(250) 658-4050  
[www.coastalandoceans.com](http://www.coastalandoceans.com)

---

**From:** Wendy Loya [mailto:[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)]  
**Sent:** Thursday, January 11, 2018 11:54 AM  
**To:** Sarah Cook  
**Subject:** Shorezone contact for Arctic info?

Hi Sarah,

Thank you for the presentation on Tuesday with the LCC's northern latitudes series. It was very timely as the Arctic LCC is working with FWS staff to understand the state of the science for the 1002 area of the Arctic National Wildlife Refuge. I would like to include a better description of what is available for Shorezone for the Refuge coast, and I am wondering if you are the person to work with on that (I think it is a 15-60 minute exercise depending on how much detail one wants to go into). When I click on contact for the AK SZ page, it gives me Steve Lewis at NOAA as a contact, so wanted to check in with you on best way to go. We are also looking for recommendations on further studies needed for key information needed to support management decisions.

Thank you,  
wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawick](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [Alan Peck](#); [David Payer](#); [Roger Kaye](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Tracy Fischbach](#); [Sarena Selbo](#)  
**Subject:** Coastal Plain 1002 Area Interagency, Interdisciplinary Res Assessment Report - Clarification  
**Date:** Thursday, January 11, 2018 3:39:11 PM  
**Attachments:** [REPORTING TEMPLATE.docx](#)

---

All

Based on some of the email traffic I read since Monday, some clarification regarding our tasking is in order.

1. We have been tasked to provide a succinct, state-of-the-knowledge summary of the discipline subjects along with any known information or data gaps that would encumber informed agency decisions relative to: "provide an oil and gas program on the coastal plain ... in a manner similar to the administration of lease sales under the Naval Petroleum Reserves Production Act ...."
2. As our responses regarding *where we are* and *what we need to know* are routed upward to DOI, this portfolio of all the respective subjects will be used at the agency-director level as a resource in moving forward, and in turn, as an information source when they are asked questions.
3. Our responses may include, but not limited to, recommendations regarding core areas, sensitive life history periods or events, movement corridors, population objectives or goals, etc.
4. Our purpose is not to make management decisions at this time but provide information upon which management decisions may be based.

Thanks

John

**From:** [Martin, John](#)  
**To:** [Berendzen, Steve](#)  
**Cc:** [Stephanie Brady](#); [Mitch Ellis](#); [Mary Colligan](#); [Fischbach, Tracy](#); [Lor, Socheata](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Drew Crane](#); [Loya, Wendy](#); [Roger Kaye](#); [Joanna Fox](#)  
**Subject:** Re: An Additional Resource for 1002 Resource Assessment  
**Date:** Thursday, January 11, 2018 3:55:06 PM  
**Attachments:** [Coastal Plain 1002 Area Interdisciplinary Info Request UPDATED wRPT OUTLINE 9Jan2018v6.docx](#)

---

Steve, and others

Our emails just crossed in digital space - wilderness values and noise were added and included in the Tue morning email update (attached, see page 22).

Thanks

John

On Thu, Jan 11, 2018 at 1:51 PM, Berendzen, Steve <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)> wrote:

Greetings,

One additional resource quality or character that we at Arctic Refuge think should be included in the 1002 Resource Assessment is wilderness with the small w. This wilderness is one of the three 1960 establishing purposes of the Arctic Range, which includes the 1002 area. This is a resource most associated with the entire Refuge and, arguably, the resource most at risk to development. It should be noted that the Reagan era 1987 Arctic National Wildlife Refuge, Alaska, Coastal Plain Resource Assessment report to Congress recognizes wilderness as a resource of the 1002 area, and one that is highly vulnerable to oil development.

Not big W designated Wilderness, but wilderness in its purpose and in popular perception. This embodies tangible and intangible values, the Refuge's wilderness characteristics include natural conditions, natural quiet, wild character, and exceptional opportunities for solitude, adventure, and immersion in the natural world. While some of these characteristics are incorporated in other discipline subjects, some such as wild character (the freedom of ecological and evolutionary processes) and intangible symbolic values are unfortunately missing.

The document should acknowledge that the 1002 area is, in fact, wilderness. As documented in the Revised CCP, this purpose continues to apply to the coastal plain. Roger Kaye would be an excellent person to work on this product if there is agreement from the team that this should be included.



Steve Berendzen  
Acting Manager, Arctic National Wildlife Refuge  
907-456-0253

**From:** [Leonard, Paul](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: DRAFT: 1002 Subject Discipline Teams led by Arctic LCC staff  
**Date:** Thursday, January 11, 2018 5:16:13 PM

---

I was just drafting an email to Frank & Matthew to ask for additional team members they might want to include

Other than that, looks good.

On Thu, Jan 11, 2018 at 3:08 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hey Paul, here is a draft for the teams Arctic LCC is leading...let me know if the Climate and snow list is complete or if you have other suggestions for the other teams

Hi John et al.,

Below are the lists of contacts for the teams that the Arctic LCC agreed to take the lead on in this initial data call:

**Soils, Permafrost, wetlands, vegetation, biotic communities:** Lead: Janet Jorgensen;  
Team members: Wendy Loya, others TBD when Janet returns 1/27.

**Climate and Snow:** Lead: Paul Leonard (Arctic LCC); Team members: Frank Urban (USGS); Matthew Sturm (Snow and Ice Research Center UAF); Gary Clow (USGS); John Trawicki (FWS); Greta Burkart (FWS); Wendy Loya (Arctic LCC)

**Air Quality:** Angela Matz took over lead on this along with Contaminants

**Coastal Resources:** Lead: Wendy Loya (Arctic LCC); Team members: Ann Gibbs, Li Erikson, Bruce Richmond, Guy Gelfenbaum, Ben Jones (USGS); Cathy Coon (BOEM); Amy Holman (NOAA); Sarah Cook (ShoreZone); Ken Dunton (UT Austin)

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska



907.786.3532 (office)

907.227.2942 (mobile)

--

Paul Leonard, PhD

Science Coordinator

[Arctic LCC](#)

101 12th Ave. Room 216

Fairbanks, AK 99701

(907) 456-0445

**From:** [Leonard, Paul](#)  
**To:** [Matthew Sturm](#); [Frank Urban](#)  
**Cc:** [Wendy Loya](#)  
**Subject:** 1002 Climate and Snow Resource Group Question  
**Date:** Thursday, January 11, 2018 5:25:03 PM

---

Hello Frank and Matthew,

We are reporting out (internally) preliminary team members for the climate/snow group by tomorrow and I thought I'd reach out to the two of you and ask if there are additional folks -- besides those already included-- that you think might be good members of this team? If so, I'd be more than happy to provide some background to them and invite them to our call on the 16th. Thank you for the consideration and I look forward to speaking with you on Tuesday.

Best,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** Idea for RDT notes next week  
**Date:** Friday, January 12, 2018 1:40:40 PM

---

Would you be cool if I put this in the RDT notes, trying to offer more about what we are doing than just to say we are talking with Matt and Frank next week...given ongoing needs conversations...

Arctic LCC staff continue to work with experts to understand trends in snow for the north slope, including the 1002 area, and ways we can better measure and model snow for habitat and transportation. Contact Paul Leonard [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov) if you have snow science needs for research or management issues that we might help address, and see <http://arcticlcc.org/projects/geophysical/snowdata/> for historical snow simulations for northern ⅓ of Alaska.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Longan, Sara](#)  
**To:** [Martin, John](#); [Socheata Lor](#); [Doug Damberg](#); [Mary Colligan](#); [Wendy Loya](#); [Mark Miller](#); [Leonard, Paul](#); [Jess Grunblatt](#); [Stephanie Brady](#); [Aimee Devaris](#); [John Pearce](#)  
**Cc:** [Greg Siekaniec](#); [Sarena Selbo](#); [Karen Mouritsen](#)  
**Subject:** Follow-up on 1002 Inter agency workshop(s) facilitated by NSSI/ Arctic LCC/ USGS  
**Date:** Friday, January 12, 2018 2:14:48 PM

---

John and team:

As requested, NSSI and the Arctic LCC teams met to discuss next steps to facilitate the communication of agency actions as it relates to the 1002 effort, during future workshops to the agencies, partners, and others.

Consult w/ BLM

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Thank you,

--

Sara Longan, PhD  
Executive Director  
North Slope Science Initiative (NSSI)  
907-271-3431

**From:** [Richmond, Bruce](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: 1002 Area: Coastal erosion and lagoons  
**Date:** Friday, January 12, 2018 2:21:09 PM

---

Many thanks for the update Wendy!! Cheers, Bruce

On Fri, Jan 12, 2018 at 1:19 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Coastal experts,

Thank you again for taking the time to talk with me and share the research you all have done and talk about science needs.

As I mentioned at the end of the call we had this week, the FWS extended the timeline for the assignment to February 16<sup>th</sup>. I have typed up everything we talked about, and am waiting for the USGS 1002 Summary report led by John Pearce to come out to add anything additional that is in there. I'm also trying to touch base with BOEM, NOAA, and Shorezone experts, as well as Ken Dunton who has the new Beaufort Sea LTER based off his ongoing research. Once I have a more complete draft for the different sections relating to coastal resources of concern, I'll send that out for everyone's review, corrections and additions. Hopefully that will be next week, then we can talk about priority research and a proposed means for accomplishing that.

Just wanted to keep you in the loop since I had said I would send something out this week.

Have a great long weekend, and I'll be in touch again soon.

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Gibbs, Ann [mailto:[agibbs@usgs.gov](mailto:agibbs@usgs.gov)]  
**Sent:** Monday, January 08, 2018 3:41 PM  
**To:** Wendy Loya  
**Cc:** Bruce Richmond; Li Erikson; Guy Gelfenbaum  
**Subject:** 1002 Area: Coastal erosion and lagoons

Hi Wendy -- Bruce, Li, and I were on the phone call this morning and I understand you are the lead on the Coastal erosion and lagoon topic. Please let us know if we can assist or provide you any information.

Bruce Richmond (Coastal geologist; [brichmond@usgs.gov](mailto:brichmond@usgs.gov))

Li Erikson (Coastal and ocean engineer; [lerikson@usgs.gov](mailto:lerikson@usgs.gov))

Ann Gibbs (Coastal geologist; [agibbs@usgs.gov](mailto:agibbs@usgs.gov))

Guy Gelfenbaum (Center Director; [ggelfenbaum@usgs.gov](mailto:ggelfenbaum@usgs.gov))

—

Ann E. Gibbs

US Geological Survey

Pacific Coastal and Marine Science Center

2885 Mission Street

Santa Cruz, CA 95050

831-460-7540

[agibbs@usgs.gov](mailto:agibbs@usgs.gov)

—

Bruce Richmond, PhD

U.S. Geological Survey

Pacific Coastal and Marine Science Center

2885 Mission St, Santa Cruz, CA 95060

Ph: 831-460-7531; FAX 831-427-4709



**From:** [Leonard, Paul](#)  
**To:** [matts@usgs.gov](mailto:matts@usgs.gov)  
**Cc:** [Wendy Loya](#)  
**Subject:** Re: 1002 Area Climate and Snow Science  
**Date:** Friday, January 12, 2018 4:32:35 PM

---

Hey Matt,

Apologies for the 2nd email:

I should have stated that the Arctic LCC is just one participant in a much wider effort to achieve this information gathering so you may have heard about this effort through other colleagues.

Cheers,  
Paul

On Fri, Jan 12, 2018 at 2:23 PM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
Hello Matt,

The Arctic LCC is in the process of identifying existing work and new science needed to support decisions regarding oil and gas exploration in the 1002 area of the arctic refuge. I am leading an effort to elicit input from experts around the region dealing with climate and snow issues. I was meeting with Ssveta Stuefer at UAF today and she mentioned you might be a good person to contact about work that has been done in and around 1002. We do work closely with the CAE program and John Pearce down in Anchorage and I know USGS is primed to release a bibliography updating [Douglas et al 2002](#) (that will include a section on water resources) but thought I would reach out to you in the meantime to see if you might have some interest in speaking with me about the following type of question:

What do we need to know and why - to support resource development decisions - including seismic exploration, building ice roads and coastal infrastructure.

I would like to talk to you if possible about the obvious linkages between snow/climate concerns and water availability in that area and get a general sense about other information/projects/data you may be aware of that could help us in this effort.

If you'd be available for a quick conversation mid next week please let me know and I can either stop by the office or arrange a phone call. Thanks for the consideration!

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216

Fairbanks, AK 99701  
(907) 456-0445

--

Paul Leonard, PhD

Science Coordinator

[Arctic LCC](#)

101 12th Ave. Room 216

Fairbanks, AK 99701

(907) 456-0445

**From:** [Jess Grunblatt](#)  
**To:** [Paul Leonard](#); [Wendy Loya](#)  
**Cc:** [Miller, Mark](#)  
**Subject:** NS Infrastructure GIS data  
**Date:** Friday, January 12, 2018 4:48:29 PM  
**Attachments:** [LCC\\_01122018.zip](#)

---

Greetings Paul and Wendy,

Attached is a zip file with North Slope roads and facilities. The area of coverage extends from south of the Brooks range north to the Chukchi and Beaufort seas and from Pt. Hope to Kaktovik.

These files are improved versions of the REA data (which was an improved version of some Audubon data). I have been shepherding a version of NS infrastructure GIS data that is compiled from public sources for quite a few years now and I think this is the best available data (exclusive of industry data). I hope to eventually make the data publicly available.

REA linework was validated and upated using heads up digitizing against ESRI high res orthoimagery and the BDL. Roads scars that represent abandoned and no longer 'usable' roads were deleted as were hypothetical roads or roads digitized from topo maps that could not be seen in the imagery. The facilities shapefile contains active and abandoned gravel pads as well as other developed features (ie. gravel pits, DEW line station, etc.)

There is always room for improvement. In the near future I hope to do an update on the pipeline information. We could also update the roads and facilities if there is something of particular interest or concern. One area that I would like to pursue as a further update is coding features by date of construction.

If you improve the data I would appreciate getting a copy of the improved product.

Let me know if you have any questions or issues regarding these data. I believe Timm will be providing you with the full REA dataset separately.

Jess

--

Jess Grunblatt  
Research Professional  
Alaska Center for Conservation Science (ACCS)  
University of Alaska Anchorage,  
Beatrice McDonald Hall - Rm 112  
3211 Providence Dr., Anchorage, Alaska 99508  
[jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)  
Office: (907) 786 6353  
Cell: (907) 244 2435

**From:** [Leonard, Paul](#)  
**To:** [Pearce, John](#)  
**Cc:** [Schellekens, Mathew](#); [Jeff Conaway](#); [Wendy Loya](#)  
**Subject:** Re: 1002 Area Climate and Snow Science  
**Date:** Friday, January 12, 2018 6:12:02 PM

---

Thanks John and Matt,


Apologies for the poorly worded email and any confusion. The purpose was pertaining to the second question about summarizing existing information.

Cheers,  
Paul

On Fri, Jan 12, 2018 at 3:45 PM, Pearce, John <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)> wrote:

Hi Paul,

Thanks for contacting us. consult w/ USGS



Best regards,  
John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
[4210 University Drive](#)  
[Anchorage, Alaska 99508](#)  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

On Fri, Jan 12, 2018 at 3:19 PM, Schellekens, Mathew <[matts@usgs.gov](mailto:matts@usgs.gov)> wrote:

Paul,

Thanks for reaching out to us. Although I would be happy to speak with you, the better persons to talk with on the USGS side would be Jeff Conaway (Branch Chief Hydrologic Monitoring and Investigations, USGS Alaska Science Center) and John Pearce (Wildlife Biologist, USGS Alaska Science Center).

I have included both of them in this email.

\*\*\*\*\*

Matt Schellekens  
Supervisory Hydrologist  
U.S. Geological Survey  
[3400 Shell Street, Fairbanks, AK 99701](#)  
(907) 479-5645 ext 222 (907) 378-8783 cell  
(907) 479-5455 fax

\*\*\*\*\*

On Fri, Jan 12, 2018 at 2:23 PM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
Hello Matt,

The Arctic LCC is in the process of identifying existing work and new science needed to support decisions regarding oil and gas exploration in the 1002 area of the arctic refuge. I am leading an effort to elicit input from experts around the region dealing with climate and snow issues. I was meeting with Ssveta Stuefer at UAF today and she mentioned you might be a good person to contact about work that has been done in and around 1002. We do work closely with the CAE program and John Pearce down in Anchorage and I know USGS is primed to release a bibliography updating [Douglas et al 2002](#) (that will include a section on water resources) but thought I would reach out to you in the meantime to see if you might have some interest in speaking with me about the following type of question:

What do we need to know and why - to support resource development decisions - including seismic exploration, building ice roads and coastal infrastructure.

I would like to talk to you if possible about the obvious linkages between snow/climate concerns and water availability in that area and get a general sense about other information/projects/data you may be aware of that could help us in this effort.

If you'd be available for a quick conversation mid next week please let me know and I can either stop by the office or arrange a phone call. Thanks for the consideration!

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
[101 12th Ave. Room 216](#)  
[Fairbanks, AK 99701](#)  
(907) 456-0445

--

Paul Leonard, PhD

Science Coordinator

[Arctic LCC](#)

101 12th Ave. Room 216

Fairbanks, AK 99701

(907) 456-0445

**From:** [Martin, John](#)  
**To:** [Berendzen, Steve](#)  
**Cc:** [Stephanie Brady](#); [Doug Damberg](#); [Lor. Socheata](#); [Joanna Fox](#); [Hollis Twitchell](#); [Stephen Arthur](#); [Christopher Latty](#); [Jorgenson, Janet](#); [Greta Burkart](#); [Roger Kaye](#); [Joshua Rose](#); [Roy Churchwell](#); [Soto, Alfredo](#); [Drew Crane](#); [Wendy Loya](#); [John Trawick](#); [Greta Burkart](#); [Angela Matz](#); [Mark Miller](#); [Tracy Fischbach](#); [Randy Brown](#); [Richard Lanctot](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Edward Decleva](#); [Sara Longan](#)  
**Subject:** Re: Nominations for resource assessment subject discipline teams  
**Date:** Friday, January 12, 2018 1:38:42 PM  
**Attachments:** [Table - Discipline Subjects & Interagency Teams 12Jan2018pm.docx](#)

---

All

Attached is a table of the Resource Assessment Team subjects and members I have thus far. Final confirmation of team leads is needed and most likely will not come until next week. Also BLM and USGS "enrollment" remains a bit light. And still need a representative from NOAA for the seals. Eventually State, Alaska Native entities, academia and other subject-matter expertise will be added to team assets.

Table will be populated and updated as we move forward.

Thanks to all.

John

On Fri, Jan 12, 2018 at 10:49 AM, Berendzen, Steve <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)> wrote:

And, now it looks like it's formatted correctly. If you don't have 14 categories show up, please let me know, but this should provide the correct list.

Steve Berendzen  
Acting Manager, Arctic National Wildlife Refuge  
907-456-0253

On Fri, Jan 12, 2018 at 10:46 AM, Berendzen, Steve <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)> wrote:

John and all who are copied,

This somehow got messed up in format, so I'll let an expert clean it up and re-send.

Steve Berendzen  
Acting Manager, Arctic National Wildlife Refuge  
907-456-0253

On Fri, Jan 12, 2018 at 10:40 AM, Berendzen, Steve <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)> wrote:

John,

We've developed our nomination list for leads and subject matter experts for the 1002 resource assessments. I realize there are many other Service employees and outside collaborators who could contribute to this effort, and we welcome that, but we've only included individuals who we are aware of with the interest and the ability to participate.

**Soils/Permafrost/Wetlands**

Lead - Wendy Loya

Subject Matter Expert - Janet Jorgenson

Subject Matter Expert - Josh Rose

Subject Matter Expert - Torre Jorgenson

**Biotic Communities and Vegetation**

Lead - Janet Jorgenson

**Caribou**

Lead - Steve Arthur

**Other Terrestrial Mammals**

Subject Matter Expert - Steve Arthur

**Cultural Resources**

Lead - Ed DeCleva

Subject Matter Expert - Hollis Twitchell

**Subsistence Resources**

Lead - Hollis Twitchell

**Water Resources**

Co-lead - John Trawicki

Co-lead - Greta Burkart

**Fisheries**

Lead - Randy Brown

**Visitor Use/Socioeconomics**

Co-Lead - Tracy Fischbach

Co-Lead - Jennifer Reed

**Migratory Birds**

Lead - Christopher Latty

Subject Matter Expert - Roy Churchwell

Subject Matter Expert - Rick Lanctot

Subject Matter Expert - Ted Swem

**Wilderness**

Lead - Roger Kaye

**Acoustical Environment**

Member - Alfredo Soto

Member - Roger Kaye

**Contaminants**

Lead - Angela Matz

**Climate**

Lead - Wendy Loya

Subject Matter Expert - Frank Urban (USGS)

Steve Berendzen

Acting Manager, Arctic National Wildlife Refuge

907-456-0253



**From:** [Amy Holman - NOAA Federal](#)  
**To:** [Wendy Loya](#)  
**Subject:** NOAA Snow, Hydrology, and Climate  
**Date:** Tuesday, January 16, 2018 10:55:49 AM  
**Attachments:** [Thoman, Rick NWS.docx](#)

---

Hi Wendy,  
Here is the contact info for Scott and Rick

Lindsey, Scott D PhD  
Hydrologist-in-Charge  
NWS/AR/ARS/RFC/ANCHORAGE AK  
ALASKA RFC (ANCHORAGE) ALASKA  
[scott.lindsey@noaa.gov](mailto:scott.lindsey@noaa.gov)  
(907) 266-5152  
<https://www.linkedin.com/in/scott-lindsey-2070b3b/>

Rick Thoman  
Climate Science and Services Manager  
Environmental and Scientific Services Division  
National Weather Service Alaska Region  
Fairbanks, Alaska  
(907) 458-3716

--

---

Amy Holman  
NOAA Alaska Regional Coordinator  
222 West 7th Ave, Suite 23  
Anchorage, AK 99513  
[amy.holman@noaa.gov](mailto:amy.holman@noaa.gov)  
907-271-5334

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** 1002 Area Climate and Snow Science: NOAA and NRCS contacts  
**Date:** Tuesday, January 16, 2018 11:00:52 AM

---

Hi Paul,

Aimee Devaris at USGS suggested contacting NOAA for the snow and climate section, and of course that makes sense. NRCS runs the Snotel monitoring so probably good to touch base with them too. I think those can be different conversations than the one today with Matthew and Gary et al. to not have too much to talk about in 1 hr. Fine to wait until after today's conversation to have a better sense of this group's recommendations.

Scott Lindsey heads up the Hydrology group at NOAA, and Amy Holman (our NOAA Steering Committee Rep suggested starting with him) [scott.lindsey@noaa.gov](mailto:scott.lindsey@noaa.gov)  
Jessica Cherry is on his staff, she used to be at UAF and developed IMIQ



NRCS contact: <https://www.wcc.nrcs.usda.gov/contact/index.html>

Wendy  
Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Pearce, John [mailto:[jpearce@usgs.gov](mailto:jpearce@usgs.gov)]  
**Sent:** Friday, January 12, 2018 3:45 PM  
**To:** Schellekens, Mathew  
**Cc:** Leonard, Paul; Jeff Conaway; Wendy Loya  
**Subject:** Re: 1002 Area Climate and Snow Science

Hi Paul,

Thanks for contacting us. Consult w/ USGS



Best regards,  
John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
4210 University Drive  
Anchorage, Alaska 99508  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

On Fri, Jan 12, 2018 at 3:19 PM, Schellekens, Mathew <[matts@usgs.gov](mailto:matts@usgs.gov)> wrote:  
Paul,

Thanks for reaching out to us. Although I would be happy to speak with you, the better persons to talk with on the USGS side would be Jeff Conaway (Branch Chief Hydrologic Monitoring and Investigations,

USGS Alaska Science  
C  
enter) and John Pearce  
(Wildlife Biologist, USGS Alaska Science Center).

I have included both of them in this email.

\*\*\*\*\*  
Matt Schellekens  
Supervisory Hydrologist  
U.S. Geological Survey  
[3400 Shell Street, Fairbanks, AK 99701](http://3400%20Shell%20Street%20Fairbanks%20AK%2099701)  
(907) 479-5645 ext 222 (907) 378-8783 cell  
(907) 479-5455 fax  
\*\*\*\*\*

On Fri, Jan 12, 2018 at 2:23 PM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
Hello Matt,

The Arctic LCC is in the process of identifying existing work and new science needed to support decisions regarding oil and gas exploration in the 1002 area of the arctic refuge. I am leading an effort to elicit input from experts around the region dealing with climate and snow issues. I was meeting with Ssveta Stuefer at UAF today and she mentioned you might be a good person to contact about work that has been done in and around 1002. We do work closely with the CAE program and John Pearce down in Anchorage and I know USGS is primed to release a bibliography updating [Douglas et al 2002](#) (that will include a section on water resources) but thought I would reach out to you in the meantime to see if you might have some interest in speaking with me about the following type of question:

What do we need to know and why - to support resource development decisions - including seismic exploration, building ice roads and coastal infrastructure.

I would like to talk to you if possible about the obvious linkages between snow/climate concerns and water availability in that area and get a general sense about other information/projects/data you may be aware of that could help us in this effort.

If you'd be available for a quick conversation mid next week please let me know and I can either stop by the office or arrange a phone call. Thanks for the consideration!

Cheers,  
Paul

--

Paul Leonard, PhD

Science Coordinator

[Arctic LCC](#)

[101 12th Ave. Room 216](#)

[Fairbanks, AK 99701](#)

[\(907\)](#) 456-0445

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** FW: NOAA Snow, Hydrology, and Climate for 1002 area  
**Date:** Tuesday, January 16, 2018 11:09:11 AM  
**Attachments:** [Thoman, Rick NWS.docx](#)

---

Another potential contact, Rick Thoman in Fairbanks.

**From:** Amy Holman - NOAA Federal [mailto:[amy.holman@noaa.gov](mailto:amy.holman@noaa.gov)]  
**Sent:** Tuesday, January 16, 2018 8:54 AM  
**To:** Wendy Loya  
**Subject:** NOAA Snow, Hydrology, and Climate

Hi Wendy,  
Here is the contact info for Scott and Rick

Lindsey, Scott D PhD  
Hydrologist-in-Charge  
NWS/AR/ARS/RFC/ANCHORAGE AK  
ALASKA RFC (ANCHORAGE) ALASKA  
[scott.lindsey@noaa.gov](mailto:scott.lindsey@noaa.gov)  
(907) 266-5152  
<https://www.linkedin.com/in/scott-lindsey-2070b3b/>

Rick Thoman  
Climate Science and Services Manager  
Environmental and Scientific Services Division  
National Weather Service Alaska Region  
Fairbanks, Alaska  
(907) 458-3716

--

-----  
Amy Holman  
NOAA Alaska Regional Coordinator  
222 West 7th Ave, Suite 23  
Anchorage, AK 99513  
[amy.holman@noaa.gov](mailto:amy.holman@noaa.gov)  
907-271-5334

**From:** [Martin, John](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Aimee Devaris](#); [Doug Damberg](#); [Socheata Lor](#); [Drew Crane](#); [Stephanie Brady](#)  
**Subject:** Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 16, 2018 11:15:01 AM  
**Attachments:** [Table - Discipline Subjects & Interagency Teams 16Jan2018am.docx](#)

---

Wendy

Thanks.

Right after I added erosion to soils ... etc, saw addition of coastal resources. This has not been added to the list of disciplines for resource assessment needs.

As attached.

John

On Tue, Jan 16, 2018 at 9:07 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi John and Aimee,

We did decide to have a coastal resources group at the organizing meeting ☺ I sent the list of team members to John and Doug, but for everyone's notes:

I am the FWS lead and Li and several other USGS scientists (Gibbs, Richmond, Gelfenbaum) have already provided fantastic input. I have also reached out to USGS ASC Scientist Ben Jones regarding the interface of permafrost and coastal erosion, as well as Ken Dunton at UTx who has the new NSF funded LTER site on the Beaufort Coast that can help us with both biological and physical aspects, and will follow up with Cathy Coon (BOEM), Amy Holman and Robin Angliss (both NOAA) once we have the updated USGS 1002 report to flesh out this topic...but if that doesn't come out this week I will move ahead on 1/22 with sending out what I have for review and input.

With regards to climate and snow, Arctic LCC Science Coordinator Paul Leonard has scheduled a call with Frank Urban and Gary Clow of USGS, along with Matthew Sturm (former USACE Cold Regions, now UAF Snow and Ice) and FWS staff to follow up on previous conversations. He is reaching out to Scott Lindsey at NOAA and also Daniel Fisher at NRCS who runs Snotel sites.

Clearly topics crosswalk at the landscape scale, so we are cc'ing all FWS leads as we gather relevant info.

Thanks all!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Martin, John [mailto:[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)]

**Sent:** Tuesday, January 16, 2018 6:38 AM

**To:** Wendy Loya; Doug Damberg; Lor, Socheata; Drew Crane; Stephanie Brady

**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

All

Aimee has *indirectly* suggested a coastal erosion discipline subject (see recommendation for USGS lead). This could be inserted as a sub-topic under several existing subject. I am suggesting soils, permafrost and wetlands. Other suggestions? And do we have a Service contact and/or lead?

Thanks

John

----- Forwarded message -----

From: **Devaris, Aimee** <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>

Date: Fri, Jan 12, 2018 at 2:34 PM

Subject: Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

To: "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

Cc: Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>

John,

I'm following up to provide USGS points of contact for the various disciplinary coordination teams you are establishing. We don't have a SME for all of the subjects in your list, but if those teams have any questions or issues they'd like USGS input on, **John Pearce will be our general POC for all North Slope science issues.** Please encourage folks to keep him in the loop in general going forward.

Water Resources -- Jeff Conaway ([jconaway@usgs.gov](mailto:jconaway@usgs.gov))

Fisheries -- Vanessa von Biela ([vvonbiela@usgs.gov](mailto:vvonbiela@usgs.gov))

Birds -- John Pearce ([jpearce@usgs.gov](mailto:jpearce@usgs.gov))

Caribou -- Heather Johnson ([heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov))

Marine Mammals -- Todd Atwood ([tatwood@usgs.gov](mailto:tatwood@usgs.gov))

Coastal Erosion -- Li Erikson ([lerikson@usgs.gov](mailto:lerikson@usgs.gov)) \* I sent a note to Li to confirm her participation, but I have not heard back yet.

Also, I wanted to make the point that in addition to marine mammals, it would really make sense to have a NOAA SME on climate and snow cover. If you need the oversight group to assist with soliciting NOAA participation, please let me know.

Regards,

Aimee

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.



We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources

now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.

2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).

3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.

4. The 7 volumes of the NPRA EIS may be located at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>

5. The 2015 Arctic Refuge CCP may be located at <https://www.fws.gov/home/arctic-ccp>

The ROD is attached.

--

**Aimee M. Devaris**

Regional Director

U.S. Geological Survey

[4210 University Drive](#)

[Anchorage, Alaska](#)

[907-786-7055](#)

**From:** [Wendy Loya](#)  
**To:** [Scott McGee](#)  
**Cc:** [John Trawicki](#)  
**Subject:** FW: NS Infrastructure GIS data  
**Date:** Tuesday, January 16, 2018 11:15:08 AM  
**Attachments:** [LCC\\_01122018.zip](#)

---

Hi Scott,

Forwarding this in case you don't get this from Timm directly. Can you confirm with me that you got my email about getting the data you and John requested on infrastructure?

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Jess Grunblatt [mailto:[jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)]  
**Sent:** Friday, January 12, 2018 2:47 PM  
**To:** Paul Leonard; Wendy Loya  
**Cc:** Miller, Mark  
**Subject:** NS Infrastructure GIS data

Greetings Paul and Wendy,  
Attached is a zip file with North Slope roads and facilities. The area of coverage extends from south of the Brooks range north to the Chukchi and Beaufort seas and from Pt. Hope to Kaktovik.

These files are improved versions of the REA data (which was an improved version of some Audubon data). I have been shepherding a version of NS infrastructure GIS data that is compiled from public sources for quite a few years now and I think this is the best available data (exclusive of industry data). I hope to eventually make the data publicly available.

REA linework was validated and upated using heads up digitizing against ESRI high res orthoimagery and the BDL. Roads scars that represent abandoned and no longer 'usable' roads were deleted as were hypothetical roads or roads digitized from topo maps that could not be seen in the imagery. The facilities shapefile contains active and abandoned gravel pads as well as other developed features (ie. gravel pits, DEW line station, etc.)

There is always room for improvement. In the near future I hope to do an update on the pipeline information. We could also update the roads and facilities if there is something of particular interest or concern. One area that I would like to pursue as a further update is coding features by date of construction.

If you improve the data I would appreciate getting a copy of the improved product.

Let me know if you have any questions or issues regarding these data. I believe Timm will be

providing you with the full REA dataset separately.

Jess

--

**Jess Grunblatt**

Research Professional

Alaska Center for Conservation Science (ACCS)

University of Alaska Anchorage,

Beatrice McDonald Hall - Rm 112

3211 Providence Dr., Anchorage, Alaska 99508

[jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)

Office: (907) 786 6353

Cell: (907) 244 2435

**From:** [Wendy Loya](#)  
**To:** [John Martin](#)  
**Subject:** RE: Oil and Gas 101  
**Date:** Tuesday, January 16, 2018 2:05:48 PM

---

Thanks, I understood that the info did not go through you. Hopefully with most staff back in the office, we can come up with a good communications plan ☺

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Martin, John [mailto:[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)]  
**Sent:** Tuesday, January 16, 2018 12:04 PM  
**To:** Wendy Loya  
**Subject:** Re: Oil and Gas 101

Wendy

So that you are in the loop, I tried all last week to set up an oil and gas information briefing by the BLM on behalf of the larger assessment needs teams. I got no response from anyone in the BLM by the time I left on Fri PM despite leaving multiple messages to multiple staff.

The information regarding the BLM briefing this Fri came down to me indirectly through Karen Clark and there was no discussion that I know.

I am waiting for instructions from the oversight team to push out further than Service staff at this point.

John

On Tue, Jan 16, 2018 at 11:28 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Soch,

The Arctic LCC staff, namely myself and Paul in Fairbanks, have taken the lead on the 1002 Resource Assessment sections that relate to research focus areas of the LCC, with an eye towards cross-disciplinary, landscape scale synthesis when needed. Can you keep us in the loop as you would refuges staff?

I would like to attend the BLM meeting referenced below if possible. For a 6-hr informational and to make the most of BLM's time in sharing their expertise, it seems like it would be good to get all of the Resource Assessment topic leads (John Martin has this list), which included folks in Fairbanks. I see that there is not a remote connection set up at this time, but perhaps FWS can host so that we can include Arctic Refuge, refuges and LCC staff?

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Trawicki, John [mailto:[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)]  
**Sent:** Tuesday, January 16, 2018 11:12 AM  
**To:** Socheata Lor  
**Cc:** Wendy Loya  
**Subject:** Fwd: Oil and Gas 101

Soch-

It would be valuable to have all members of the "technical teams" and Arctic NWR staff attend.

----- Forwarded message -----

From: **Granfors, Diane** <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>  
Date: Mon, Jan 15, 2018 at 1:24 PM  
Subject: Fwd: Oil and Gas 101  
To: FW7 RNR Staff <[fw7\\_rnr\\_staff@fws.gov](mailto:fw7_rnr_staff@fws.gov)>

anyone else interested in attending? please let me know asap and I'll forward to Soch.

----- Forwarded message -----

From: **Lor, Socheata** <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
Date: Sun, Jan 14, 2018 at 2:48 PM  
Subject: Fwd: Oil and Gas 101  
To: "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, "Brady, Stephanie" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>, "Fischbach, Tracy" <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, "Berendzen, Steve" <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>

Hi,

Please see Karen's message. Let me know as soon as you can how many people would like to attend from your division/group.

Thanks!

Soch

~~~~~  
*Socheata Lor, Ph.D.  
Acting Assistant Regional Director - Region 7  
National Wildlife Refuge System*

0000006805

U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)  
[Office: 907.786.3420](#)  
[Cell: 907.891.6194](#)  
~~~~~

----- Forwarded message -----

From: **Clark, Karen** <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>  
Date: Fri, Jan 12, 2018 at 11:40 AM  
Subject: Oil and Gas 101  
To: FW7 Directorate <[fw7\\_directorate@fws.gov](mailto:fw7_directorate@fws.gov)>

Hi Everyone!

BLM has offered to provide us with an oil and gas 101 session given our increased involvement these days. They would like to get an idea of how many people are interested.

**When? Friday January 19 9 am - 3pm**

**Where? Federal Building, 4th floor Denali Room**

**Video available? Not at this time.** After this initial training, they are open to figuring out options for our staff who aren't in Anchorage.

This is a great opportunity! Please check in with your staff and give me an idea of how many folks you expect will participate.

Thanks, Karen

Karen P. Clark  
Deputy Regional Director  
U.S. Fish & Wildlife Service- Alaska Region  
[1011 E Tudor Rd, MS 374](#)  
[Anchorage, AK 99503](#)  
[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)  
907.786.3542 office  
907.786.3493 direct  
907.786.3306 fax

--

-----  
[Diane Granfors, PhD](#)  
[Alaska Region Inventory and Monitoring Coordinator](#)

0000006806

National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
[1011 East Tudor Road, MS 235](#)  
[Anchorage, AK 99503](#)  
[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)  
907-786-3429

*Collaborative ecosystem science to inform National Wildlife Refuge System conservation decisions in Alaska.*

--

John Trawicki  
Water Resources Branch Chief  
National Wildlife Refuge System, Alaska  
U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)  
Work: (907) 786-3474  
Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken place"  
George Bernard Shaw



**From:** [Wendy Loya](#)  
**To:** [John Pearce](#)  
**Subject:** RE: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**Date:** Tuesday, January 16, 2018 5:33:00 PM

---

Thanks John! Super helpful to know.

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Pearce, John [mailto:[jpearce@usgs.gov](mailto:jpearce@usgs.gov)]  
**Sent:** Tuesday, January 16, 2018 3:20 PM  
**To:** Wendy Loya  
**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

Hi Wendy,

Aimee forwarded me your note below. There isn't anything in the coastal/shoreline erosion section of our new 1002 report that will be different than what you already have, since you and I both talked with Ann Gibbs for information on this topic. So, don't wait on the report if you want to get feedback.

I hope we can release the final version of the paper later this week.

JP

----- Forwarded message -----

**From:** Devaris, Aimee <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>  
**Date:** Tue, Jan 16, 2018 at 2:02 PM  
**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**To:** Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>

FYI.

----- Forwarded message -----

**From:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Date:** Tue, Jan 16, 2018 at 9:07 AM  
**Subject:** RE: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items  
**To:** John Martin <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>, [adevaris@usgs.gov](mailto:adevaris@usgs.gov)  
**Cc:** Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Socheata Lor <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>

Hi John and Aimee,

We did decide to have a coastal resources group at the organizing meeting ☺ I sent the list of team members to John and Doug, but for everyone's notes:

I am the FWS lead and Li and several other USGS scientists (Gibbs, Richmond, Gelfenbaum) have already provided fantastic input. I have also reached out to USGS ASC Scientist Ben Jones regarding the interface of permafrost and coastal erosion, as well as Ken Dunton at UTx who has the new NSF funded LTER site on the Beaufort Coast that can help us with both biological and physical aspects, and will follow up with Cathy Coon (BOEM), Amy Holman and Robin Angliss (both NOAA) once we have the updated USGS 1002 report to flesh out this topic...but if that doesn't come out this week I will move ahead on 1/22 with sending out what I have for review and input.

With regards to climate and snow, Arctic LCC Science Coordinator Paul Leonard has scheduled a call with Frank Urban and Gary Clow of USGS, along with Matthew Sturm (former USACE Cold Regions, now UAF Snow and Ice) and FWS staff to follow up on previous conversations. He is reaching out to Scott Lindsey at NOAA and also Daniel Fisher at NRCS who runs Snotel sites.

Clearly topics crosswalk at the landscape scale, so we are cc'ing all FWS leads as we gather relevant info.

Thanks all!  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Martin, John [mailto:[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)]  
**Sent:** Tuesday, January 16, 2018 6:38 AM  
**To:** Wendy Loya; Doug Damberg; Lor, Socheata; Drew Crane; Stephanie Brady  
**Subject:** Fwd: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action Items

All

Aimee has *indirectly* suggested a coastal erosion discipline subject (see recommendation for USGS lead). This could be inserted as a sub-topic under several existing subject. I am suggesting soils, permafrost and wetlands. Other suggestions? And do we have a Service contact and/or lead?

Thanks

John

----- Forwarded message -----

From: **Devaris, Aimee** <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>  
Date: Fri, Jan 12, 2018 at 2:34 PM  
Subject: Re: Coastal Plain 1002 Area Interagency Interdisciplinary Mtg/Conf Call Action

Items

To: "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

Cc: Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>

John,

I'm following up to provide USGS points of contact for the various disciplinary coordination teams you are establishing. We don't have a SME for all of the subjects in your list, but if those teams have any questions or issues they'd like USGS input on, **John Pearce will be our general POC for all North Slope science issues**. Please encourage folks to keep him in the loop in general going forward.

Water Resources -- Jeff Conaway ([jconaway@usgs.gov](mailto:jconaway@usgs.gov))

Fisheries -- Vanessa von Biela ([vvonbiela@usgs.gov](mailto:vvonbiela@usgs.gov))

Birds -- John Pearce ([jpearce@usgs.gov](mailto:jpearce@usgs.gov))

Caribou -- Heather Johnson ([heatherjohnson@usgs.gov](mailto:heatherjohnson@usgs.gov))

Marine Mammals -- Todd Atwood ([tatwood@usgs.gov](mailto:tatwood@usgs.gov))

Coastal Erosion -- Li Erikson ([lerikson@usgs.gov](mailto:lerikson@usgs.gov)) \* I sent a note to Li to confirm her participation, but I have not heard back yet.

Also, I wanted to make the point that in addition to marine mammals, it would really make sense to have a NOAA SME on climate and snow cover. If you need the oversight group to assist with soliciting NOAA participation, please let me know.

Regards,  
Aimee

On Tue, Jan 9, 2018 at 9:33 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:  
All

Thank you all for your participation yesterday morning to talk through the tasking to compile state-of-knowledge resource assessments on key disciplines relative to oil and gas development in the coastal plain 1002 area. Your willingness to contribute your technical expertise is greatly appreciated.

We heard significant concern about the deadline associated with the tasking and therefore elevated those concerns. As we stated during the meeting, the path forward and the respective role of each of the agencies is still being worked out. Given that, we have received an extension to the deadline we presented yesterday morning. Each discipline team is now being requested to complete the reporting template by **Friday 16 February 2018**. If possible, please address all phases of oil and gas operations (exploration, development, transportation, and production). If you do not have sufficient time to address all phases, please focus on exploration and to the extent possible; please identify key information gaps or needed analyses for all phases.

The additional time will also allow the discipline teams to take advantage of the USGS Summary Report which will be an excellent source document. It will also allow you to reach out to key subject matter experts to ensure your state of the knowledge report is as accurate and complete as possible. As we have said, the process and timing is unpredictable. So, it is possible that the need may arise for some of this

information to be ready sooner. If that is the case, we will work directly with the affected team to obtain answers and information as requested and required.

By **COB Friday 12 January 2018**, please send along any nominations you have to contribute to the subject discipline teams to John Martin and cc Doug Damberg. Early next week, we will send along a full list of the teams. A lead will be designated for each team and the team will be free to seek out expertise as needed. We will use the team leads as the core team for future communication with the Interagency Interdisciplinary Team. Given the meetings in headquarters this week, we will work to schedule the oversight team meeting next week. Attached you will find the template we discussed yesterday. We have populated it with some information from recently prepared documents. This is for your use as you see fit – delete, supplement, add, etc. We have also attached the other source documents mentioned during our meeting (CCP, Liberty EIS, .....). We all look forward to receiving the USGS Summary Report at the end of the week.

To ensure clarity on deadlines and the assignment, we will continue to work with the Oversight Team and Regional Directors on this and related tasks.

Thank you again for your time and please let us know if you have any questions.

John

#### **Attachments**

1. You will find attached a completely new resource assessment request (24 pages now) which includes the reporting template (very last page), and preliminary narratives as a basis for editing or dump and start anew. Please note that not all subjects are covered [air quality, contaminants, and that some subjects were combined with other resources than now suggested [wetlands with water resources now soils, permafrost and wetlands]. Omissions are artifacts of the focus on exploration as opposed to the full oil and gas suite of exploration, development, production and transportation. A separate literature cited is also attached.
2. State of Alaska oil and gas proposal (2013- 104 pages) and USACE Point Thompson ROD (2012 - 143 pages).
3. A scan or web address of the Liberty Project EIS could not be located and hopefully someone else could provide that.
4. The 7 volumes of the NPRA EIS may be located at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=14702>
5. The 2015 Arctic Refuge CCP may be located at <https://www.fws.gov/home/arctic-ccp>  
The ROD is attached.

--

**Aimee M. Devaris**  
Regional Director  
U.S. Geological Survey  
[4210 University Drive](#)  
[Anchorage, Alaska](#)  
[907-786-7055](#)

--

**Aimee M. Devaris**  
Regional Director  
U.S. Geological Survey  
[4210 University Drive](#)  
[Anchorage, Alaska](#)  
[907-786-7055](#)

**From:** [Christopher Arp](#)  
**To:** [Leonard, Paul](#)  
**Cc:** [Wendy Loya](#)  
**Subject:** Re: ANWR - TEON linkage  
**Date:** Tuesday, January 16, 2018 5:50:05 PM  
**Attachments:** [TEON-Kuparuk\\_newpriorities\\_v2.docx](#)

---

Hi Paul and Wendy,

Here's a write up of the changes we're proposing for TEON-Kuparuk program to address evolving information needs on the North Slope. I've discussed this with INE Director Bill Schnabel (my boss) and Sveta, Emily, and Allen and they are all on board with these proposed changes.

Look forward to discussing tomorrow.

Cheers,  
Chris

-----  
Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center  
Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: 907-474-2783  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)  
<http://ine.uaf.edu/werc/people/chris-arp/>  
<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>  
-----

On Thu, Jan 11, 2018 at 3:33 PM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
Great,

I'll stop in your office if that works and we can get Wendy via telephone.

On Thu, Jan 11, 2018 at 3:32 PM, Christopher Arp <[cdarp@alaska.edu](mailto:cdarp@alaska.edu)> wrote:  
Next Wednesday at 1 works for me. Thanks, Chris

-----  
Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center  
Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: [907-474-2783](tel:907-474-2783)  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)

<http://ine.uaf.edu/werc/people/chris-arp/>  
<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>

---

On Thu, Jan 11, 2018 at 3:30 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Ok, how about next Wednesday after 1pm or anytime Thursday?

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

[907.786.3532](tel:907.786.3532) (office)

[907.227.2942](tel:907.227.2942) (mobile)

**From:** Christopher Arp [mailto:[cdarp@alaska.edu](mailto:cdarp@alaska.edu)]

**Sent:** Thursday, January 11, 2018 3:29 PM

**To:** Wendy Loya

**Cc:** Paul Leonard

**Subject:** Re: ANWR - TEON linkage

Hi Wendy,

I'm working from home tomorrow and running errands off and on. I'm mostly free all next week though.

Chris

---

Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center  
Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860

Phone: 907-474-2783  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)

<http://ine.uaf.edu/werc/people/chris-arp/>

<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>

---

On Thu, Jan 11, 2018 at 3:25 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Can we chat Friday? If you are free at 1pm, Paul will be on campus and could come by your office and I could join by phone?

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

[907.786.3532](tel:907.786.3532) (office)

[907.227.2942](tel:907.227.2942) (mobile)

**From:** Christopher Arp [mailto:[cdarp@alaska.edu](mailto:cdarp@alaska.edu)]

**Sent:** Thursday, January 11, 2018 3:15 PM

**To:** Wendy Loya

**Subject:** ANWR - TEON linkage

Hi Wendy,

Came up with a way that I think work we're doing in Kuparuk could help inform science and management in ANWR. Would take some rescoping of project, but its something we'd considered long before TEON, so might be a good opportunity to make some changes.

Give me a call if you want to chat about it.

Cheers,



Chris

---

Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center  
Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: [907-474-2783](tel:907-474-2783)  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)

<http://ine.uaf.edu/werc/people/chris-arp/>

<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>

---

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
[101 12th Ave. Room 216](#)  
[Fairbanks, AK 99701](#)  
[\(907\) 456-0445](tel:907-456-0445)

**From:** [Martin, John](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Doug Damberg](#); [Paul Leonard](#); [Mark Miller](#); [Angela Matz](#)  
**Subject:** Re: 1002 Subject Discipline Teams led by Arctic LCC & NSSI staff  
**Date:** Tuesday, January 16, 2018 9:18:52 AM

---

Thanks

On Fri, Jan 12, 2018 at 11:47 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi John,

Below are the lists of contacts for the teams that the Arctic LCC agreed to take the lead on in this initial data call:

**Soils, Permafrost, wetlands, vegetation, biotic communities:** Lead: Janet Jorgensen;  
Team members: Wendy Loya, Josh Rose others TBD when Janet returns 1/27.

**Climate and Snow:** Lead: Paul Leonard (Arctic LCC); Team members: Frank Urban (USGS); Matthew Sturm (Snow and Ice Research Center UAF); Gary Clow (USGS); John Trawicki (FWS); Greta Burkart (FWS); Wendy Loya (Arctic LCC)

**Air Quality:** Angela Matz took over lead on this and jumped right into an interagency call for air quality modeling for the north slope led by BLM and BOEM

**Coastal Resources:** Lead: Wendy Loya (Arctic LCC); Team members: Ann Gibbs, Li Erikson, Bruce Richmond, Guy Gelfenbaum, Ben Jones (USGS); Cathy Coon (BOEM); Amy Holman (NOAA); Sarah Cook (ShoreZone); Ken Dunton (UT Austin)

**Noise: Lead:** Mark Miller (NSSI); Team Members: Davyd Betchkal (NPS); Roger Kaye (FWS)

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

0000006817

907.227.2942 (mobile)

**From:** [Wendy Loya](#)  
**To:** [John Trawicki](#); [Christopher Arp](#); [Paul Leonard](#)  
**Subject:** Call in and background info: ANWR - TEON linkage  
**Date:** Wednesday, January 17, 2018 2:38:45 PM  
**Attachments:** [TEON-Kuparuk\\_newpriorities\\_v2.docx](#)

---

Hi all,

I am inviting John Trawicki into this conversation, so let's use our conference call number to talk:

Instant Meeting Audio # 65-CIP

Instant Meeting Audio Participant Passcode: 65-CIP

**Talk soon!**

**Wendy**

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Christopher Arp [mailto:[cdarp@alaska.edu](mailto:cdarp@alaska.edu)]  
**Sent:** Tuesday, January 16, 2018 3:49 PM  
**To:** Leonard, Paul  
**Cc:** Wendy Loya  
**Subject:** Re: ANWR - TEON linkage

Hi Paul and Wendy,

Here's a write up of the changes we're proposing for TEON-Kuparuk program to address evolving information needs on the North Slope. I've discussed this with INE Director Bill Schnabel (my boss) and Sveta, Emily, and Allen and they are all on board with these proposed changes.

Look forward to discussing tomorrow.

Cheers,  
Chris

-----  
Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center  
Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: 907-474-2783  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)  
<http://ine.uaf.edu/werc/people/chris-arp/>  
<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>

-----  
On Thu, Jan 11, 2018 at 3:33 PM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
Great,

I'll stop in your office if that works and we can get Wendy via telephone.

On Thu, Jan 11, 2018 at 3:32 PM, Christopher Arp <[cdarp@alaska.edu](mailto:cdarp@alaska.edu)> wrote:  
Next Wednesday at 1 works for me. Thanks, Chris

-----  
Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center  
Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: [907-474-2783](tel:907-474-2783)  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)  
<http://ine.uaf.edu/werc/people/chris-arp/>  
<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>  
-----

On Thu, Jan 11, 2018 at 3:30 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Ok, how about next Wednesday after 1pm or anytime Thursday?

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

**From:** Christopher Arp [mailto:[cdarp@alaska.edu](mailto:cdarp@alaska.edu)]  
**Sent:** Thursday, January 11, 2018 3:29 PM  
**To:** Wendy Loya  
**Cc:** Paul Leonard  
**Subject:** Re: ANWR - TEON linkage

Hi Wendy,

I'm working from home tomorrow and running errands off and on. I'm mostly free all next week though.

Chris

-----  
Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center

Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: [907-474-2783](tel:907-474-2783)  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)  
<http://ine.uaf.edu/werc/people/chris-arp/>  
<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>

---

On Thu, Jan 11, 2018 at 3:25 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
Can we chat Friday? If you are free at 1pm, Paul will be on campus and could come by your office and I could join by phone?

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

**From:** Christopher Arp [mailto:[cdarp@alaska.edu](mailto:cdarp@alaska.edu)]  
**Sent:** Thursday, January 11, 2018 3:15 PM  
**To:** Wendy Loya  
**Subject:** ANWR - TEON linkage

Hi Wendy,

Came up with a way that I think work we're doing in Kuparuk could help inform science and management in ANWR. Would take some rescoping of project, but its something we'd considered long before TEON, so might be a good opportunity to make some changes.

Give me a call if you want to chat about it.

Cheers,  
Chris

---

Christopher D. Arp  
Associate Research Professor  
Water and Environmental Research Center  
Institute of Northern Engineering  
University of Alaska Fairbanks  
467 Duckering, PO Box 5860  
Fairbanks, AK 99775-5860  
Phone: [907-474-2783](tel:907-474-2783)  
Email: [cdarp@alaska.edu](mailto:cdarp@alaska.edu)  
<http://ine.uaf.edu/werc/people/chris-arp/>  
<https://scholar.google.com/citations?user=y1AFG-QAAAAJ&hl=en>

---

--

Paul Leonard, PhD  
Science Coordinator

[Arctic LCC](#)

[101 12th Ave. Room 216](#)

[Fairbanks, AK 99701](#)

[\(907\) 456-0445](#)

**From:** [Colligan, Mary](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Socheata Lor](#); [Sarena Selbo](#)  
**Subject:** Re: Time to touch base Thursday or next week?  
**Date:** Wednesday, January 17, 2018 4:24:48 PM

---

Hi Wendy - Yes, I think that would be very helpful. I would also like to learn a bit more about the proposed workshops. I had a chance to talk briefly with Sarena yesterday, but would appreciate the chance to discuss this with you. I am available tomorrow afternoon if there is a time that works for you and Soch.

On Wed, Jan 17, 2018 at 1:52 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Mary and Soch,

Would it be worthwhile for us to chat briefly about the role of the Arctic LCC in supporting FWS science needs with regards to 1002 issues? I am interested to hear your ideas on how the LCC partnership can help demands on ES and Refuges, perhaps especially as it relates to science and meaningful engagement of partners.

We are engaging in the Resource Assessment teams organized at the meeting on 1/8/18 by John Martin in areas where the Arctic LCC has invested in research in the past and has a good network of partners to help identify science status and needs. I could also see us helping to convene conversations among the team leads and key subject matter experts to help work through prioritization of the submitted future research needs and how to work collaboratively to fund those needs.

I can try to find a time that works if you think this is worthwhile.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)



--

Mary Colligan  
Assistant Regional Director  
Fisheries and Ecological Services  
U.S. Fish and Wildlife Service, Alaska Region  
1011 E. Tudor Road, MS-361  
Anchorage, AK 99503  
907-786-3505  
cell: 907-223-5945

**From:** [Sarena Selbo](#)  
**To:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**Subject:** Fwd: Time to touch base Thursday or next week?  
**Date:** Wednesday, January 17, 2018 4:35:19 PM

---

Awesome! Keep me posted.

Begin forwarded message:

**From:** "Colligan, Mary" <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>  
**Date:** January 17, 2018 at 3:24:45 PM PST  
**To:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Cc:** Socheata Lor <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Sarena Selbo <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>  
**Subject:** Re: Time to touch base Thursday or next week?

Hi Wendy - Yes, I think that would be very helpful. I would also like to learn a bit more about the proposed workshops. I had a chance to talk briefly with Sarena yesterday, but would appreciate the chance to discuss this with you. I am available tomorrow afternoon if there is a time that works for you and Soch.

On Wed, Jan 17, 2018 at 1:52 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Mary and Soch,

Would it be worthwhile for us to chat briefly about the role of the Arctic LCC in supporting FWS science needs with regards to 1002 issues? I am interested to hear your ideas on how the LCC partnership can help demands on ES and Refuges, perhaps especially as it relates to science and meaningful engagement of partners.

We are engaging in the Resource Assessment teams organized at the meeting on 1/8/18 by John Martin in areas where the Arctic LCC has invested in research in the past and has a good network of partners to help identify science status and needs. I could also see us helping to convene conversations among the team leads and key subject matter experts to help work through prioritization of the submitted future research needs and how to work collaboratively to fund those needs.

I can try to find a time that works if you think this is worthwhile.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

Mary Colligan  
Assistant Regional Director  
Fisheries and Ecological Services  
U.S. Fish and Wildlife Service, Alaska Region  
1011 E. Tudor Road, MS-361  
Anchorage, AK 99503  
907-786-3505  
cell: 907-223-5945

**From:** [Lor, Socheata](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Invitation: Arctic LCC Support for 1002 @ Thu Jan 18, 2018 9am - 10am (socheata\_lor@fws.gov)  
**Date:** Wednesday, January 17, 2018 7:03:58 PM

---

Hi Wendy,

Thank you!

Soch

~~~~~  
Socheata Lor, Ph.D.  
Acting Assistant Regional Director - Region 7  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
Office: 907.786.3420  
Cell: 907.891.6194  
~~~~~

On Wed, Jan 17, 2018 at 2:45 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

## Arctic LCC Support for 1002

[more details »](#)

Hi Mary and Soch,

It looks like we could meet at 9am Thursday unless you two have other things pop up. Mary Smith room is available and we'll loop Paul in by phone from Fairbanks.

Discussion about role of Arctic LCC in supporting FWS 1002 science and partner needs; is there a need for a workshop for Arctic science to support responsible oil and gas development?

When Thu Jan 18, 2018 9am – 10am Alaska Time

Where FWS-FW7 Mary Smith Media Center/Regional Office ([map](#))

Video call 

Calendar [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)

Who

- [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov) - organizer
- [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)
- [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)
- [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)

Going? [Yes](#) - [Maybe](#) - [No](#) [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov) because you are subscribed for invitations on calendar [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More](#).

0000006827

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** FW: Oil and Gas 101  
**Date:** Wednesday, January 17, 2018 10:33:41 AM

---

FYI, I still think it would be ok for you to come down Friday.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Socheata Lor [mailto:[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)]  
**Sent:** Tuesday, January 16, 2018 7:53 PM  
**To:** Wendy Loya  
**Cc:** John Martin  
**Subject:** Re: Oil and Gas 101

Hi Wendy,

Yes, I will try to keep you looped in! Thank you very much for your involvement and leadership on this!

I asked Karen to provide the same in Fairbanks. I'll keep you posted on that.

Sent from my iPhone

On Jan 16, 2018, at 11:28 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Soch,

The Arctic LCC staff, namely myself and Paul in Fairbanks, have taken the lead on the 1002 Resource Assessment sections that relate to research focus areas of the LCC, with an eye towards cross-disciplinary, landscape scale synthesis when needed. Can you keep us in the loop as you would refuges staff?

I would like to attend the BLM meeting referenced below if possible. For a 6-hr informational and to make the most of BLM's time in sharing their expertise, it seems like it would be good to get all of the Resource Assessment topic leads (John Martin has this list), which included folks in Fairbanks. I see that there is not a remote connection set up at this time, but perhaps FWS can host so that we can include Arctic Refuge, refuges and LCC staff?

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Trawicki, John [mailto:[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)]  
**Sent:** Tuesday, January 16, 2018 11:12 AM  
**To:** Socheata Lor  
**Cc:** Wendy Loya  
**Subject:** Fwd: Oil and Gas 101

Soch-

It would be valuable to have all members of the "technical teams" and Arctic NWR staff attend.

----- Forwarded message -----

From: **Granfors, Diane** <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>  
Date: Mon, Jan 15, 2018 at 1:24 PM  
Subject: Fwd: Oil and Gas 101  
To: FW7 RNR Staff <[fw7\\_rnr\\_staff@fws.gov](mailto:fw7_rnr_staff@fws.gov)>

anyone else interested in attending? please let me know asap and I'll forward to Soch.

----- Forwarded message -----

From: **Lor, Socheata** <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
Date: Sun, Jan 14, 2018 at 2:48 PM  
Subject: Fwd: Oil and Gas 101  
To: "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, "Brady, Stephanie" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>, "Fischbach, Tracy" <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, "Berendzen, Steve" <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>

Hi,

Please see Karen's message. Let me know as soon as you can how many people would like to attend from your division/group.

Thanks!

Soch

~~~~~

*Socheata Lor, Ph.D.  
Acting Assistant Regional Director - Region 7  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)*

Office: 907.786.3420

Cell: 907.891.6194

~~~~~

----- Forwarded message -----

From: **Clark, Karen** <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>

Date: Fri, Jan 12, 2018 at 11:40 AM

Subject: Oil and Gas 101

To: FW7 Directorate <[fw7\\_directorate@fws.gov](mailto:fw7_directorate@fws.gov)>

Hi Everyone!

BLM has offered to provide us with an oil and gas 101 session given our increased involvement these days. They would like to get an idea of how many people are interested.

**When? Friday January 19 9 am - 3pm**

**Where? Federal Building, 4th floor Denali Room**

**Video available? Not at this time.** After this initial training, they are open to figuring out options for our staff who aren't in Anchorage.

This is a great opportunity! Please check in with your staff and give me an idea of how many folks you expect will participate.

Thanks, Karen

Karen P. Clark  
Deputy Regional Director  
U.S. Fish & Wildlife Service- Alaska Region  
[1011 E Tudor Rd](mailto:karen_clark@fws.gov), MS 374  
[Anchorage, AK 99503](mailto:karen_clark@fws.gov)  
[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)  
907.786.3542 office  
907.786.3493 direct  
907.786.3306 fax

--

-----  
Diane Granfors, PhD  
Alaska Region Inventory and Monitoring Coordinator  
National Wildlife Refuge System

0000006830

U.S. Fish and Wildlife Service  
[1011 East Tudor Road](#), MS 235  
Anchorage, AK 99503  
[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)  
907-786-3429

*Collaborative ecosystem science to inform National Wildlife Refuge System  
conservation decisions in Alaska.*

--

John Trawicki  
Water Resources Branch Chief  
National Wildlife Refuge System, Alaska  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
Work: (907) 786-3474  
Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken  
place"  
George Bernard Shaw



**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** FW: A few notes for today's meeting about 1002 Arctic Refuge  
**Date:** Thursday, January 18, 2018 10:40:30 AM

---

I will refer to these ideas for a workshop during our 9am meeting.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Wendy Loya [mailto:[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)]  
**Sent:** Monday, December 18, 2017 3:45 AM  
**To:** Sarena Selbo; Paul Leonard; '[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)'; Sara Longan; Mark Miller  
**Subject:** A few notes for today's meeting about 1002 Arctic Refuge

Hi Sarena, Paul, Bud, Sara and Mark,

I am sorry I am not able to make it to the meeting today as I am traveling back to Anchorage.

The Arctic LCC has been talking with Sara and Mark at NSSI over the past several months about how we can work to support BLM, FWS, Alaska DNR, NSB and others in information needs for responsible resource development. There are working groups being formed at both NSSI and Arctic LCC that will synthesize information relevant to oil and gas leasing and development in the Arctic. For Arctic LCC this includes Cumulative Impacts Analysis and Caribou Connectivity, as well as our ongoing efforts in hydrologic and climatological monitoring research. However, I imagine that time is of the essence and that the Department of the Interior is wanting to move things along quickly.

From my limited experience observing the FWS working on the Environmental Assessment for the rule change to allow seismic in the refuge the past month, I perceive that there is a great need for rapid coordination between BLM staff to:

- 1) share the BLM's development assumptions (what leasing, seismic exploration, exploration drilling and development activities "look like") and DNR's ice road and water permitting roles;
- 2) share the Best Management Practices / Stipulations in the NPRA Integrated Activity Plan (IAP) more broadly with FWS staff to identify management and mitigation opportunities;
- 3) bring BLM, FWS and other science together to help FWS target the research and monitoring needed for the Arctic Refuge to be able to complete an EIS;
- 4) ensure meaningful engagement of communities within the Refuge and outside the Refuge that will be affected by a new management direction. The BLM Subsistence Advisory Panel and NPRA Working Groups, in addition to the Porcupine Caribou Herd Management Board, provide examples and opportunities for some aspects of this important component.

Arctic LCC and NSSI could organize a workshop to bring people together around the topics, with both presentations and also focused working groups.

I hope there is time for this type of coordination, but at the very least, creating some shared expertise and human resources between BLM and FWS would greatly facilitate upcoming NEPA analyses.

Cheers,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Jeff Conaway](#); [Vanessa von Biela](#); [Sarah Ann Cook](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Sveinoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [Alan Peck](#); [Catherine Coon](#); [David Payer](#); [Brad Griffith](#); [Tracy Fischbach](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Sarena Selbo](#)  
**Subject:** Re: CRS Arctic National Wildlife Refuge (ANWR): An Overview, dated 9 Jan 2018 now available  
**Date:** Thursday, January 18, 2018 10:58:34 AM

---

All

The Congressional Research Service (CRS) has completed overview reports on the Arctic Refuge nearly every year as a single-source reference for Congressional representatives and staffers. The subject report is relatively neutral to both oil and gas industry and natural resources with some relevant findings differing from previous iterations.

There is a clear summary of the new legislative stipulations for an oil and gas program on the coastal plain 1002 area.

State-of-the-art for the oil and gas industry is evolving and this should be no surprise. Due to climate change, ice roads for exploration are used less since 2007 as the winter period becomes shorter with less snow cover.

Also, there is an overview of the most recent development on the North Slope, the Alpine project that began 10 years ago with a 100-acre footprint including an airstrip and 3 miles of roads. This has now expanded to 5 drill pads and 1,845 acres of disturbed soils and about 150 miles of interconnecting roads. This total is nearly the limit for surface occupancy, 2000 acres, for the 1002 area under the new ANILCA language. The Alpine development also highlights the in problems of confining development to the smallest possible footprint.

There is much useful information in the subject report, some of which may help answer existing unknowns, as we move forward generating our resource assessment needs for our respective disciplines.

Thanks

John

On Thu, Jan 18, 2018 at 7:22 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

The attached Congressional Research Service *Arctic National Wildlife Refuge (ANWR): an Overview*, dated 9 Jan 2018, may be of some interest and utility for our resource assessment needs efforts.

There is no other information to pass along at this time.

Thanks

| John

**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawick](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [Tracy Fischbach](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Jeff Conaway](#); [Vanessa von Biela](#); [Sarah Ann Cook](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Svejnoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [Alan Peck](#); [Catherine Coon](#); [David Payer](#); [Brad Griffith](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Sarena Selbo](#)  
**Subject:** Coastal Plain 1002 Area Interagency, Interdisciplinary Teams and Resource Assessment Needs Subject (TABLE)  
**Date:** Thursday, January 18, 2018 1:46:02 PM  
**Attachments:** [Table - Discipline Subjects & Interagency Teams 16Jan2018pm.docx](#)

---

All

Based on the feedback provided, we are moving forward with the interdisciplinary teams as identified in the attached table. Moving forward, we will use the individuals identified in this table for future communication with the Interagency Interdisciplinary Team. We would like to keep the group limited to these individuals, but if you are not on a specific resource team and would like to continue to remain on this email list, please reply to this email indicating as such and identify the role you will serve.

Thank you again for your time and effort on this task. Please let us know if you have any questions.

John

**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [Tracy Fischbach](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Jeff Conaway](#); [Vanessa von Biela](#); [Sarah Ann Cook](#); [Brad Griffith](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Sveinoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [Alan Peck](#); [Catherine Coon](#); [David Payer](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Sarena Selbo](#)  
**Subject:** UPDATED - Coastal Plain 1002 Area Interagency, Interdisciplinary Teams and Resource Assessment Needs  
Subject (TABLE)  
**Date:** Thursday, January 18, 2018 3:14:39 PM  
**Attachments:** [Table - Discipline Subjects & Interagency Teams 18Jan2018pm.docx](#)

---

All

As I am sure everyone can appreciate, tracking all the emails and names and additions to the mailing list along with compiling the table, errors were bound to creep in - so my bad if there is any blame.

Please find attached an updated table - that is the most current (with fewer errors).

Thanks

John

**From:** [Wendy Loya](#)  
**To:** [Joshua Rose](#)  
**Subject:** RE: Link for Soils, permafrost and Wetlands Resource Assessment for 1002 area  
**Date:** Thursday, January 18, 2018 3:45:08 PM

---

I figured out the error I made in sharing, you should be able to open and edit now...  
Sorry!

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Rose, Joshua [mailto:[joshua\\_rose@fws.gov](mailto:joshua_rose@fws.gov)]  
**Sent:** Thursday, January 18, 2018 12:35 PM  
**To:** Wendy Loya  
**Subject:** Re: Link for Soils, permafrost and Wetlands Resource Assessment for 1002 area

Wendy,

Sounds good and you should be getting a request for access for the document.

Thanks,  
Josh

On Thu, Jan 18, 2018 at 12:17 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Josh,

[https://docs.google.com/document/d/19\\_hHe7OP4cvofx4q8dp9V29x1moUVD\\_r8VZIhmGHLSc/edit?usp=sharing](https://docs.google.com/document/d/19_hHe7OP4cvofx4q8dp9V29x1moUVD_r8VZIhmGHLSc/edit?usp=sharing)

Let me know if you can't edit it, but think I have it set correctly.

Thanks for reaching out on this Resource Assessment. I have set up the template in a google doc through the Arctic LCC account so that we can share it among partners external to DOI during the drafting phase. I added one project for an example of how it might be formatted, and feel free to add more subtopics than the 5 I quickly drafted. There will be overlap among disciplines, so we only need to be specific as to what we need to know from soils, permafrost and wetlands. Wetlands could go in with Vegetation, which is separate for now, so we'll see where everyone thinks if it fits best. Please add contact info for everyone that you consult with so we can refer back as we move towards future editing.

Thanks!  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

--

0000006838

Joshua Rose  
Aquatic Ecologist  
USFWS Region 7 I&M  
101 12th Ave., Rm 216  
Fairbanks, AK 99701  
phone: (907) 456-0409



**From:** [Miller, Mark](#)  
**To:** [Wendy M. Loya, PhD](#)  
**Subject:** Fwd: Agenda for 1/19/18 Arctic Leasing Workshop  
**Date:** Thursday, January 18, 2018 4:59:06 PM  
**Attachments:** [1-19-18 Arctic Leasing Workshop Agenda.docx](#)  
[ANWR - Title II Tax Act ANWR Provision.pdf](#)

---

~~~~~  
Mark E. Miller, PhD | Deputy Director  
North Slope Science Initiative | <http://www.NorthSlopeScience.org>  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513  
~~~~~

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

----- Forwarded message -----

From: Sweet, Serena <[ssweet@blm.gov](mailto:ssweet@blm.gov)>  
Date: Thu, Jan 18, 2018 at 2:53 PM  
Subject: Re: Agenda for 1/19/18 Arctic Leasing Workshop  
To: Dave Mushovic <[dmushovi@blm.gov](mailto:dmushovi@blm.gov)>, Ted Murphy <[t75murph@blm.gov](mailto:t75murph@blm.gov)>, Lesli Ellis-Wouters <[lellis@blm.gov](mailto:lellis@blm.gov)>, "Brumbaugh, Robert" <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, "Miriam (Nicole) Hayes" <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stephen Wackowski <[stephen\\_wackowski@ios.doi.gov](mailto:stephen_wackowski@ios.doi.gov)>, Shelly Jacobson <[njones@blm.gov](mailto:njones@blm.gov)>, Donna Wixon <[dwixon@blm.gov](mailto:dwixon@blm.gov)>, Greg Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Jessie Chmielowski <[jchmielowski@blm.gov](mailto:jchmielowski@blm.gov)>, "Pearce, John" <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Ryan Noel <[ryan\\_noel@fws.gov](mailto:ryan_noel@fws.gov)>, Marlo Draper <[mdraper@blm.gov](mailto:mdraper@blm.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Sara Boario <[sara\\_boario@fws.gov](mailto:sara_boario@fws.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, Karen Clark <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>, Eric Taylor <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Socheata Lor <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, Karen Mouritsen <[kmourits@blm.gov](mailto:kmourits@blm.gov)>, Casey Burns <[ctburns@blm.gov](mailto:ctburns@blm.gov)>, "Fritz, Stacey" <[sfritz@blm.gov](mailto:sfritz@blm.gov)>, Debora Nigro <[dnigro@blm.gov](mailto:dnigro@blm.gov)>, Amee Howard <[amee\\_howard@fws.gov](mailto:amee_howard@fws.gov)>, Sarah LaMarr <[slamarr@blm.gov](mailto:slamarr@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>

Hello,  
Attached is a slightly modified agenda for our Arctic Leasing Workshop tomorrow.

Also, attached is the Tax Act language that applies to this discussion.

Serena Sweet  
BLM-Alaska, Resources Division  
Supervisory Planning & Environmental Coordinator  
Desk: 907-271-4543  
Cell: 907-223-3267

On Tue, Jan 16, 2018 at 8:38 PM, Sweet, Serena <[ssweet@blm.gov](mailto:ssweet@blm.gov)> wrote:

Hello,  
Attached is the agenda for the Arctic Leasing Workshop that will be held this Friday,

January 19th from 9am to 3pm at the Federal Building. Please look over the agenda and let me know if you have any questions.

Serena Sweet

BLM-Alaska, Resources Division

Supervisory Planning & Environmental Coordinator

Desk: 907-271-4543

Cell: 907-223-3267

**From:** [Lor, Socheata](#)  
**To:** [Doug Damberg](#); [Martin, John](#); [Crane, Drew](#); [Brady, Stephanie](#); [Debbie Steen](#); [Wendy Loya](#); [Diane Granfors](#); [Ronnie Sanchez](#)  
**Subject:** Fwd: Agenda for 1/19/18 Arctic Leasing Workshop  
**Date:** Thursday, January 18, 2018 6:28:50 PM  
**Attachments:** [1-19-18 Arctic Leasing Workshop Agenda.docx](#)  
[ANWR - Title II Tax Act ANWR Provision.pdf](#)

---

Please pass this one.

Soch

~~~~~  
Socheata Lor, Ph.D.  
Acting Assistant Regional Director - Region 7  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
Office: 907.786.3420  
Cell: 907.891.6194  
~~~~~

----- Forwarded message -----

From: Sweet, Serena <[ssweet@blm.gov](mailto:ssweet@blm.gov)>  
Date: Thu, Jan 18, 2018 at 2:53 PM  
Subject: Re: Agenda for 1/19/18 Arctic Leasing Workshop  
To: Dave Mushovic <[dmushovi@blm.gov](mailto:dmushovi@blm.gov)>, Ted Murphy <[t75murph@blm.gov](mailto:t75murph@blm.gov)>, Lesli Ellis-Wouters <[lellis@blm.gov](mailto:lellis@blm.gov)>, "Brumbaugh, Robert" <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, "Miriam (Nicole) Hayes" <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stephen Wackowski <[stephen\\_wackowski@ios.doi.gov](mailto:stephen_wackowski@ios.doi.gov)>, Shelly Jacobson <[njones@blm.gov](mailto:njones@blm.gov)>, Donna Wixon <[dwixon@blm.gov](mailto:dwixon@blm.gov)>, Greg Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Jessie Chmielowski <[jchmielowski@blm.gov](mailto:jchmielowski@blm.gov)>, "Pearce, John" <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Ryan Noel <[ryan\\_noel@fws.gov](mailto:ryan_noel@fws.gov)>, Marlo Draper <[mdraper@blm.gov](mailto:mdraper@blm.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Sara Boario <[sara\\_boario@fws.gov](mailto:sara_boario@fws.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, Karen Clark <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>, Eric Taylor <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Socheata Lor <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, Karen Mouritsen <[kmourits@blm.gov](mailto:kmourits@blm.gov)>, Casey Burns <[ctburns@blm.gov](mailto:ctburns@blm.gov)>, "Fritz, Stacey" <[sfritz@blm.gov](mailto:sfritz@blm.gov)>, Debora Nigro <[dnigro@blm.gov](mailto:dnigro@blm.gov)>, Amee Howard <[amee\\_howard@fws.gov](mailto:amee_howard@fws.gov)>, Sarah LaMarr <[slamarr@blm.gov](mailto:slamarr@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>

Hello,  
Attached is a slightly modified agenda for our Arctic Leasing Workshop tomorrow.

Also, attached is the Tax Act language that applies to this discussion.

Serena Sweet  
BLM-Alaska, Resources Division  
Supervisory Planning & Environmental Coordinator  
Desk: 907-271-4543  
Cell: 907-223-3267

0000006842

On Tue, Jan 16, 2018 at 8:38 PM, Sweet, Serena <[ssweet@blm.gov](mailto:ssweet@blm.gov)> wrote:

Hello,

Attached is the agenda for the Arctic Leasing Workshop that will be held this Friday, January 19th from 9am to 3pm at the Federal Building. Please look over the agenda and let me know if you have any questions.

Serena Sweet

BLM-Alaska, Resources Division

Supervisory Planning & Environmental Coordinator

Desk: 907-271-4543

Cell: 907-223-3267

**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Jeff Conaway](#); [Vanessa von Biela](#); [Sarah Ann Cook](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Sveinoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [Alan Peck](#); [Catherine Coon](#); [David Payer](#); [Brad Griffith](#); [Tracy Fischbach](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Sarena Selbo](#)  
**Subject:** CRS Arctic National Wildlife Refuge (ANWR): An Overview, dated 9 Jan 2018 now available  
**Date:** Thursday, January 18, 2018 9:22:31 AM  
**Attachments:** [Arctic NWR Primer for Congress 9Jan2018.pdf](#)

---

All

The attached Congressional Research Service *Arctic National Wildlife Refuge (ANWR): an Overview*, dated 9 Jan 2018, may be of some interest and utility for our resource assessment needs efforts.

There is no other information to pass along at this time.

Thanks

John

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** Fwd: Agenda for 1/19/18 Arctic Leasing Workshop  
**Date:** Friday, January 19, 2018 11:28:41 AM  
**Attachments:** [1-19-18 Arctic Leasing Workshop Agenda.docx](#)  
[Untitled attachment 08802.htm](#)  
[ANWR - Title II Tax Act ANWR Provision.pdf](#)  
[Untitled attachment 08805.htm](#)

---

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](#) (office)  
[907.227.2942](#) (mobile)

Begin forwarded message:

**From:** "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
**Date:** January 18, 2018 at 16:28:14 AKST  
**To:** Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>, "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, "Brady, Stephanie" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Debbie Steen <[debbie\\_steen@fws.gov](mailto:debbie_steen@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Diane Granfors <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)>, Ronnie Sanchez <[ronnie\\_sanchez@fws.gov](mailto:ronnie_sanchez@fws.gov)>  
**Subject:** Fwd: Agenda for 1/19/18 Arctic Leasing Workshop

[Please pass this one.](#)

**Soch**

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

----- Forwarded message -----

**From:** Sweet, Serena <[ssweet@blm.gov](mailto:ssweet@blm.gov)>  
**Date:** Thu, Jan 18, 2018 at 2:53 PM  
**Subject:** Re: Agenda for 1/19/18 Arctic Leasing Workshop  
**To:** Dave Mushovic <[dmushovi@blm.gov](mailto:dmushovi@blm.gov)>, Ted Murphy <[t75murph@blm.gov](mailto:t75murph@blm.gov)>, Lesli Ellis-Wouters <[lellis@blm.gov](mailto:lellis@blm.gov)>, "Brumbaugh, Robert"

<[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, "Miriam (Nicole) Hayes" <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Stephen Wackowski <[stephen\\_wackowski@ios.doi.gov](mailto:stephen_wackowski@ios.doi.gov)>, Shelly Jacobson <[njones@blm.gov](mailto:njones@blm.gov)>, Donna Wixon <[dwixon@blm.gov](mailto:dwixon@blm.gov)>, Greg Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>, Zachary Lyons <[zlyons@blm.gov](mailto:zlyons@blm.gov)>, Jessie Chmielowski <[jchmielowski@blm.gov](mailto:jchmielowski@blm.gov)>, "Pearce, John" <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>, Ryan Noel <[ryan\\_noel@fws.gov](mailto:ryan_noel@fws.gov)>, Marlo Draper <[mdraper@blm.gov](mailto:mdraper@blm.gov)>, Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, Sara Boario <[sara\\_boario@fws.gov](mailto:sara_boario@fws.gov)>, Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, Karen Clark <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>, Eric Taylor <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Socheata Lor <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>, Karen Mouritsen <[kmourits@blm.gov](mailto:kmourits@blm.gov)>, Casey Burns <[ctburns@blm.gov](mailto:ctburns@blm.gov)>, "Fritz, Stacey" <[sfritz@blm.gov](mailto:sfritz@blm.gov)>, Debora Nigro <[dnigro@blm.gov](mailto:dnigro@blm.gov)>, Ameer Howard <[amee\\_howard@fws.gov](mailto:amee_howard@fws.gov)>, Sarah LaMarr <[slamarr@blm.gov](mailto:slamarr@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>

Hello,

Attached is a slightly modified agenda for our Arctic Leasing Workshop tomorrow.

Also, attached is the Tax Act language that applies to this discussion.

Serena Sweet

BLM-Alaska, Resources Division  
Supervisory Planning & Environmental Coordinator  
Desk: 907-271-4543  
Cell: 907-223-3267

On Tue, Jan 16, 2018 at 8:38 PM, Sweet, Serena <[ssweet@blm.gov](mailto:ssweet@blm.gov)> wrote:

Hello,

Attached is the agenda for the Arctic Leasing Workshop that will be held this Friday, January 19th from 9am to 3pm at the Federal Building. Please look over the agenda and let me know if you have any questions.

Serena Sweet

BLM-Alaska, Resources Division  
Supervisory Planning & Environmental Coordinator  
Desk: 907-271-4543  
Cell: 907-223-3267

**From:** [John Martin \(via Google Drive\)](#)  
**To:** [wendy\\_lova@fws.gov](#)  
**Cc:** [steve\\_berendzen@fws.gov](#); [joanna\\_fox@fws.gov](#); [stephen\\_arthur@fws.gov](#); [drew\\_crane@fws.gov](#); [doug\\_damberg@fws.gov](#); [ronnie\\_sanchez@fws.gov](#); [bud\\_cribley@fws.gov](#); [jenifer\\_kohout@fws.gov](#); [christopher\\_putnam@fws.gov](#); [patrick\\_lemons@fws.gov](#); [paul\\_leonard@fws.gov](#); [sarah\\_conn@fws.gov](#); [edward\\_decleva@fws.gov](#); [douglas\\_campbell@fws.gov](#); [diane\\_granfors@fws.gov](#); [john\\_trawicki@fws.gov](#); [eric\\_taylor@fws.gov](#); [greta\\_burkart@fws.gov](#); [janet\\_jorgenson@fws.gov](#); [richard\\_lanctot@fws.gov](#); [christopher\\_latty@fws.gov](#); [angela\\_matz@fws.gov](#); [randy\\_i\\_brown@fws.gov](#); [bob\\_henszey@fws.gov](#); [hollis\\_twitchell@fws.gov](#); [kaithryn\\_ott@fws.gov](#); [margaret\\_perdue@fws.gov](#); [joshua\\_rose@fws.gov](#); [louise\\_smith@fws.gov](#); [scott\\_covington@fws.gov](#); [patrick\\_odell@fws.gov](#); [tracy\\_fischbach@fws.gov](#); [jpearce@usgs.gov](#); [peter\\_wikoff@fws.gov](#); [brian\\_mccaffery@fws.gov](#); [nicole\\_gustine@fws.gov](#); [stephanie\\_brady@fws.gov](#)  
**Subject:** Coastal Plain 1002 Area - Invitation to collaborate  
**Date:** Thursday, January 18, 2018 12:33:34 PM

[john\\_w\\_martin@fws.gov](#) has invited you to **contribute** to the following shared folder:



Coastal Plain 1002 Area



Resource Literature & Correspondence for Coastal Plain 1002 Area, Arctic National Wildlife Refuge

Open

Google Drive: Have all your files within reach from any device.

Google Inc. 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA





**From:** [Matthew Sturm](#)  
**To:** [Paul Leonard](#); [Wendy Loya](#); [Frank Urban](#)  
**Subject:** snow & 1002  
**Date:** Friday, January 19, 2018 11:54:17 AM  
**Attachments:** [SnowNotesANWR\\_1002\\_Sturm.docx](#)

---

Dear Paul, Wendy (and for Frank, for your FYI):

As promised, here is a informal write-up about snow and the 1002 area based on our recent discussions. My conversation with my NASA program manager was noncommittal, as might be expected. Other options for funding work this spring will take more time and considerably more grooming.

Matthew

--

Dr. Matthew Sturm  
Geophysical Institute  
University of Alaska-Fairbanks  
907-474-5257  
[msturm1@alaska.edu](mailto:msturm1@alaska.edu)

**From:** [Wendy Loya](#)  
**To:** [Lor, Socheata](#)  
**Subject:** Coordination  
**Date:** Friday, January 19, 2018 12:49:28 PM

---

Soch,

Just a thought as you meet all further discuss coordinating 1002 actions. Mark Miller at NSSI would be a great candidate for the 1002 coordinator if there is a way to bring him over from BLM. He gets the regulatory part.

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [Tracy Fischbach](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Jeff Conaway](#); [Vanessa von Biela](#); [Sarah Ann Cook](#); [Brad Griffith](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Sveinoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [Alan Peck](#); [Catherine Coon](#); [David Payer](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#); [Sarena Selbo](#)  
**Subject:** Fwd: USGS 1002 Area OFR  
**Date:** Friday, January 19, 2018 9:21:34 AM  
**Attachments:** [Pearce et al. OFR 2018-1003.pdf](#)

---

All

As promised, John Pearce and Alaska USGS have produced a wildlife literature review for the coastal plain of Arctic Refuge 2002-2017 for our use. Copy attached and check back with USGS website for online link.

For earlier resource information, please see Douglas et al. (2002), or Clough et al. (1987) (both readily available on internet and too large to attach), among others.

Our thanks to John and others and Alaska USGS for this timely information. This will prove useful now and into the future.

Please distribute widely.

Thanks

John

#### Literature Cited

Douglas, D.C., P.E. Reynolds, and E.B. Rhodes. 2002. Arctic Refuge coastal plain terrestrial wildlife research summaries. Reston, VA: U.S. Department of the Interior, Geological Survey Biological Science Report USGS/BRD/BSR-2002-0001.

Clough, N.K., P.C. Patton, and A.C. Christiansen. 1987. Arctic National Wildlife Refuge, Alaska, coastal plain resources assessment: report and recommendation to the Congress of the United States and final legislative environmental impact statement (2 Volumes). Washington, D.C.: U.S. Department of the Interior, Geologic Survey and Bureau of Land Management.

----- Forwarded message -----

**From:** John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>  
**Date:** Fri, Jan 19, 2018 at 7:03 AM  
**Subject:** USGS 1002 Area OFR  
**To:** [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov), [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)

John and Mary,

The USGS Report on the 1002 Area is attached and the citation is below. The online link doesn't work yet, but should be active later today.

Pearce, J.M., Flint, P.L., Atwood, T.C., Douglas, D.C., Adams, L.G., Johnson, H.E., Arthur, S.M., and Latty, C.J., 2018, Summary of wildlife-related research on the coastal plain of the Arctic National Wildlife Refuge, Alaska, 2002–17: U.S. Geological Survey Open-File Report 2018–1003, 27 p., <https://doi.org/10.3133/ofr20181003>.

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
4210 University Drive  
Anchorage, Alaska 99508  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

**From:** [Rose, Joshua](#)  
**To:** [Wendy Loya](#)  
**Subject:** Soils, permafrost, Wetlands 1002  
**Date:** Tuesday, January 23, 2018 4:27:19 PM  
**Attachments:** [Soil, permafrost and wetlands Resource Science Assesment for 1002 area\\_JR\\_Comments1232018.docx](#)

---

Wendy,

I tried putting comments into the google document but it appears to delete them. It seems I can edit but not comment. Take a look at google docs and if you see my comments then you can disregard this email. I didn't know what form you wanted the document to take and some of the other group members may have more info than I do so the comments I made are primarily for discussion purposes and can be worked into the final document after we meet. I copied and pasted them into the attached document the second time.

--

Joshua Rose  
Aquatic Ecologist  
USFWS Region 7 I&M  
101 12th Ave., Rm 216  
Fairbanks, AK 99701  
phone: (907) 456-0409

**From:** [Scott Lindsey - NOAA Federal](#)  
**To:** [Leonard, Paul](#)  
**Cc:** [Wendy Loya](#)  
**Subject:** Re: 1002 Climate & Snow Conversation  
**Date:** Tuesday, January 23, 2018 5:35:30 PM

---

Paul

Sounds good. I may have another person or two from my office join in as well.

Thanks  
Scott

On Tue, Jan 23, 2018 at 3:21 PM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:

Great! Thanks Scott,

How about Friday at 2pm.

We can use our conference number:

*Instant Meeting Audio #* 65-CIP

*Instant Meeting Audio Participant Passcode:* 65-CIP

Look forward to speaking with you

Cheers,  
Paul

On Tue, Jan 23, 2018 at 2:32 PM, Scott Lindsey - NOAA Federal  
<[scott.lindsey@noaa.gov](mailto:scott.lindsey@noaa.gov)> wrote:

Paul

I'm happy to talk to you about these issues. Thursday at 3 pm would work or Friday between 1 and 3pm.

Just let me know.

Thanks  
Scott

On Tue, Jan 23, 2018 at 11:21 AM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:

Hello Scott,

I am the science coordinator for the [Arctic Landscape Conservation Cooperative](#) (LCC) and am leading a FWS effort to describe the state of knowledge regarding climate and snow information in the 1002 area of the Arctic National Wildlife Refuge. This effort is being applied within the context of oil & gas exploration and we are attempting to identify pertinent data and knowledge gaps as well as opportunities to fill those gaps.

The LCC has worked with Amy Holman in the past and she suggested you might be a good person to speak with regarding some of these issues as well as how snow/climate are linked with water resources. Would it be possible to have a conversation this week? Possibly Thursday or Friday afternoon? If not, is there a better time for you? If you have any questions about this effort, I'd be happy to discuss them and you can contact me using the telephone number in my signature.

Thanks for your consideration.

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
[101 12th Ave. Room 216](#)  
[Fairbanks, AK 99701](#)  
[\(907\) 456-0445](#)

--



--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
[101 12th Ave. Room 216](#)  
[Fairbanks, AK 99701](#)  
[\(907\) 456-0445](#)

--



**From:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**To:** [Paul Leonard](#); [Joshua Bradley](#)  
**Subject:** PTSD.1002

---

Let's chat about the role Arctic LCC staff can play in 1002 Resource Assessments and planning, building off ideas from last week for data coordination, LCD and science synthesis and prioritization. This will be an outline for a short document to share with FWS ARDs by Friday morning and also Science Apps to show how well we pivot

:)

We'll use our mymeeting number

Go team!



**From:** [Google Calendar](#) on behalf of [Paul Leonard](#)  
**To:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**Subject:** PTSD.1002  
**Attachments:** [invite.ics](#)

---

Paul Leonard  
has accepted this invitation.

PTSD.1002

Let's chat about the role Arctic LCC staff can play in 1002 Resource Assessments and planning, building off ideas from last week for data coordination, LCD and science synthesis and prioritization. This will be an outline for a short document to share with FWS ARDs by Friday morning and also Science Apps to show how well we pivot :-)

We'll use our mymeeting number  
Go team!

When  
Wed Jan 24, 2018 3pm -- 4pm Alaska Time

Where

65-CIP

Video call

65-CIP

Calendar

[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)

Who

• [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)

- organizer

• Paul Leonard

• Joshua Bradley

Invitation from Google Calendar <<https://www.google.com/calendar/>>

You are receiving this email at the account [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov) because you are subscribed for invitation replies on calendar [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More <https://support.google.com/calendar/answer/37135#forwarding>](https://support.google.com/calendar/answer/37135#forwarding).

**From:** [Leonard, Paul](#)  
**To:** [Rick.Thoman@noaa.gov](mailto:Rick.Thoman@noaa.gov)  
**Cc:** [Wendy Loya](#)  
**Subject:** 1002 Climate & Snow Conversation  
**Date:** Tuesday, January 23, 2018 7:11:30 PM

---

Hi Rick,

I am the science coordinator for the [Arctic Landscape Conservation Cooperative](#) (LCC) and am leading a FWS effort to describe the state of knowledge regarding climate and snow information in the 1002 area of the Arctic National Wildlife Refuge. This effort is being applied within the context of oil & gas exploration and we are attempting to identify pertinent data and knowledge gaps as well as opportunities to fill those gaps.

The LCC has worked with Amy Holman in the past and she suggested you might be a good person to speak with regarding some of these issues. I'm especially interested in discussing climate trends and related data issues/and or gaps in this geographic area with you. Would it be possible to have a conversation this week? Possibly Thursday (anytime other than 12:30-1:30) or Friday morning? I'm happy to stop in IARC if that would be easiest or we can chat via telephone.

If not, is there a better time for you? If you have any questions about this effort, I'd be happy to discuss them and you can contact me using the telephone number in my signature.

Thanks for your consideration.

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

**From:** [Martin, John](#)  
**To:** [Burkart, Greta](#)  
**Cc:** [Steve Berendzen](#); [Janet Jorgenson](#); [John Trawicki](#); [Joanna Fox](#); [Hollis Twitchell](#); [Jennifer Reed](#); [Roger Kaye](#); [Alfredo Soto](#); [Christopher Latty](#); [Roy Churchwell](#); [Tracy Fischbach](#); [Wendy Loya](#); [Paul Leonard](#); [Stephanie Brady](#); [Doug Damberg](#); [Drew Crane](#); [Lor, Socheata](#); [Diane Granfors](#)  
**Subject:** Re: National Research Council 2003 report:: "Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope"  
**Date:** Tuesday, January 23, 2018 4:11:23 PM  
**Attachments:** [Ecological Impacts of Climate Change 2008NRC.pdf](#)  
[Arctic Refuge Climate Summary 2009.pdf](#)

---

Greta

Thanks.

May also want to refer to:

*Ecological impacts of climate change* by NRC 2008 (pp 31-33), and *Projected climate change scenarios for Arctic National Wildlife Refuge* by Statewide Network for Alaska Planning 2009;

relative to water availability - precipitation and drying.

Thanks

John

On Tue, Jan 23, 2018 at 1:57 PM, Burkart, Greta <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)> wrote:

Hi Everyone,

Here is the link to download the free pdf of the Natural Research Council's 2003 report on the "Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope": <https://www.nap.edu/catalog/10639/cumulative-environmental-effects-of-oil-and-gas-activities-on-alaskas-north-slope>.

The report is a few hundred pages and includes comparisons between the NPR-A and the 1002 area and recommended data needs. Note - some of the data needs still have not been addressed and have been not been mentioned in recent BLM Environmental Impacts Statements for North Slope oil activity.

Greta

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
101 12 th Ave Rm 236  
Fairbanks, AK 99701  
ph: (907) 456-0519  
fax: (907) 456-0428  
email: [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)  
[www.facebook.com/arcticnationalwildliferefuge](https://www.facebook.com/arcticnationalwildliferefuge)

**From:** [Wendy Loya](#)  
**To:** [Sarena Selbo](#)  
**Subject:** FW: 1-19-18 Arctic Leasing Workshop Presentations  
**Date:** Tuesday, January 23, 2018 4:16:43 PM  
**Attachments:** [BLM Oil and Gas Program Overview - Rob Brumbaugh.pdf](#)  
[Overview of Geophysical and Seismic Exploration - Donna Wixon.pdf](#)  
[Overview of Coastal Plain Oil and Gas Plan EIS - Nicole Hayes.pdf](#)  
[Overview of Leasing Process - Wayne Svejnoha.pdf](#)  
[Overview of APD Process \(Exploration and Production\) - Rob Brumbaugh.pdf](#)  
[Compliance and Monitoring \(Certification Process\) Zach Lyons & Donna Wixon.pdf](#)

---

Didn't see your name....

**From:** Serena Sweet [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]

**Sent:** Friday, January 19, 2018 6:12 PM

**To:** Aimee Devaris; Aimee Howard; Bradley Shults; Brumbaugh, Robert; Burns, Melissa; Casey Burns; Catherine Hillis; Christian Zimmerman; Christopher Putnam; Dave Mushovic; Debora Nigro; Diane Granfors; Donna Wixon; Doug Damberg; Douglass Cooper; Drew Crane; Elizabeth Labunski; Eric Taylor; Fritz, Stacey; Greg Siekaniec; Jessie Chmielowski; John Trawicki; Jordan Muir; Karen Clark; Karen Mouritsen; Kimberly Klein; Kyle James; Laura McDuffie; Lesli Ellis-Wouters; Margaret Perdue; Mark Miller; Marlo Draper; Martin, John; Mary Colligan; Miriam (Nicole) Hayes; Pearce, John; Richard Lanctot; Robert Kaler; Ronnie Sanchez; Ryan Noel; Sara Boario; Sara Longan; Sarah LaMarr; Shelly Jacobson; Socheata Lor; Stephanie Brady; Stephen Wackowski; Steven Cohn; Tamara Zeller; Ted Murphy; Tracy Fischbach; Wayne Svejnoha; Wendy Loya; Zachary Lyons; [william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov)

**Subject:** 1-19-18 Arctic Leasing Workshop Presentations

Hello,

Thank you all for your participation in the Arctic Leasing Workshop today. Attached are the slides from the presentations and the notes will be sent out as soon as possible.

If there is anyone from your agency that participated in this workshop that I missed on this email please let me know so that I can them to our distribution list.

Please feel free to contact Nicole Hayes or myself if you have any questions.

Serena Sweet

BLM-Alaska, Resources Division

Supervisory Planning  
&  
Environmental Coordinator  
Desk: 907-271-4543  
Cell: 907-223-3267

--

Serena Sweet Supervisory Planning & Environmental Coordinator BLM Alaska - Division of Resources [www.blm.gov/ak/planning](http://www.blm.gov/ak/planning) Desk: 907-271-4543 Cell: 907-223-3267

**From:** [Miller, Mark](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: 1002 resource assessments...and decision  
**Date:** Wednesday, January 24, 2018 1:17:50 PM

---

Thank-you and thank-you.

Yes - let's catch up next week. I'm free except Mon at 10:00 and Wed at 3:00.

---

**Mark E. Miller, PhD | Deputy Director**  
North Slope Science Initiative | <http://www.NorthSlopeScience.org>  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

On Wed, Jan 24, 2018 at 8:22 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Oh no! Well, I mean...Congratulations! So many mixed feelings as people switch positions, especially those that I really enjoy working with that are moving further afield. I worked for WRST on the Nabesna Road ATV project in mid-1990's, and fell in love with that area.

Here is a link to my Coastal Assessment. I don't know if this is the best format, but this is what I started with...outline style.

[https://docs.google.com/document/d/1CsTVvO8U1WYNY92ryq-Baf2uCi\\_yiNG\\_oBwpqmovkb0/edit?usp=sharing](https://docs.google.com/document/d/1CsTVvO8U1WYNY92ryq-Baf2uCi_yiNG_oBwpqmovkb0/edit?usp=sharing)

Let me know if that doesn't seem to work. I can set up a document for noise in our ArcticLCC google account that is accessible to anyone, not just DOI, if that is helpful.

Let's catch up next week?

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]  
**Sent:** Wednesday, January 24, 2018 8:15 AM  
**To:** Wendy M. Loya, PhD  
**Subject:** 1002 resource assessments...and decision

Hi Wendy -

As you offered, please share with me one of your resource information assessments as a model for me to consider as I finally begin work on this today. Thanks.

On Monday, I accepted the WRST position - <sup>b6</sup>

Thanks as always for all that you do, and especially for being a light of inspiration in these times.

Best - Mark

---

Mark E. Miller, PhD | Deputy Director

North Slope Science Initiative | <http://www.NorthSlopeScience.org>

Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427

c/o Bureau of Land Management | Alaska State Office | State Director's Office

[222 West 7th Avenue, #13 | Anchorage, AK 99513](#)

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the

0000006861

right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

**From:** [Michaelson, Julie](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Wetlands info for 1002 Resource Assessment  
**Date:** Wednesday, January 24, 2018 1:53:45 PM  
**Attachments:** [NWI\\_ANWR.pdf](#)  
[NORTH SLOPE USER NOTES.pdf](#)

---

Hi Wendy,  
Hope you are hanging in there ok after all the craziness of the shutdown.  
Perhaps you've been able to get out to ski?

I would be happy to share the status for ANWR NWI. Just to get started, I have attached a pdf showing the area of the refuge that has been mapped at 1:63K NWI probably mapped in late 80's early 90's but I will get a date for you. Also attached is a user guide written by the former NWI coordinator, (Jon Hall) who performed the mapping. No updates have occurred in ANWR. This documents the types of wetlands that were mapped.

The horizontal white areas are blank areas or holidays in the data due to lack of orthoimagery. These are areas where gaps occur between photo overlap. AHAP 1:65K CIR base was used to make the wetland interpretations. I will try and round up an exact project date for you.

There of course now there is much better imagery available and all new NWI products are being mapped at a finer scale using new elevation data coupled with ortho-imagery to interpret NWI units. Enhanced finer scale products are being produced in AK at 1:24K scale and integrate surface water flow with wetland feature delineation.

ANWR is based on 1978-86 vintage aerial photography. I would think it would be critical to have an updated baseline that depicts current landscape condition.

I am available tomorrow afternoon or anytime on Fri if you want to discuss further.

best,  
Julie

On Wed, Jan 24, 2018 at 10:28 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Julie,

I agreed to lead compilation of the soils, permafrost and wetlands combined Resource Assessment team for the 1002 area. I imagine you are the expert on the status of information we have and don't have with regards to the Arctic Refuge coastal plain? Can we find a time to chat? I have a template to fill out and so I think between a discussion and then your input regarding references for information, we can get started. If there are others that should weigh in on wetlands issues, let me know...Janet and Tor will of course be integral when they return from travel.



Thanks!

Wendy x3532

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

Julie Michaelson  
Wetlands Coord R7  
U.S. Fish and Wildlife Service  
1011 East Tudor Road  
Anchorage, Alaska 99503  
(907)786-3675

**From:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**To:** [Julie Michaelson](#)  
**Subject:** 1002 Wetlands Resource Assessment

---

Hi Julie,

I will include what you sent and if we can chat about the updated needs, I can draft that as we talk. I'll also share a new product on landforms from an Arctic LCC project to see if that is something that is useful. Do you want to come down to my office? If another time on Friday works better, I am available 8-2 on Friday.

Thank you!

Wendy

**From:** [Bradley, Joshua](#)  
**To:** [Wendy Loya](#); [Leonard, Paul](#)  
**Subject:** Beyond 1002  
**Date:** Wednesday, January 24, 2018 7:20:14 PM

---

Hi Wendy and Paul,

In thinking about how to approach the 1002 proposal, it occurred to me that this is not a new problem with respect to the data management/analysis issues. In fact, the Region, and the Service for that matter, face all of the same issues(and more) regarding the documentation, storage, analysis, and dissemination of information assets. The [prospectus that Paul and I wrote](#) up several months ago is intended to identify projects that provide solutions to these data management needs. I would be interested in determining the possibility of the Region supporting these efforts, in conjunction with the 1002 coordination or not. Personally, I'm concerned that my role in the 1002 effort would lean heavily towards data "coordinator" and frankly I don't find the prospect all that appealing. I'm hoping that I can find a role in the Region where I'm still able to get my hands dirty building things that help people manage data effectively.

Thoughts?

Josh

=====  
Joshua Bradley  
Arctic LCC Data Manager  
U.S. Fish and Wildlife Service  
101 12th Avenue, Room 216  
Fairbanks, Alaska 99701  
907.455.1847 (office)  
907.519.9370 (cell)  
<http://arcticlcc.org>  
=====

**From:** [Dunton, Kenneth H](#)  
**To:** [Wendy Loya](#)  
**Subject:** RE: Coastal Science for Arctic Refuge 1002 area  
**Date:** Wednesday, January 24, 2018 11:32:05 PM  
**Attachments:** [Churchwell et al. Estuaries and Coasts. 2015.pdf](#)  
[BLE LTER 2016 Proposal for Distribution.pdf](#)  
[Dunton et al. Estuaries and Coasts. 2012.pdf](#)  
[vonBiela Vanessa 0125 1045 NearshoreFishAssemblagesChangingBeaufortSea.pdf](#)

---

Hi Wendy,

To get you started, I'm attaching our very recent funded LTER proposal which has a lot of information on many of the topics you listed below. It contains a substantial References section that I'm sure you will find useful as well.

In addition, I've attached a couple of papers related to coastal habitats in the 1002 area. I'm currently involved in a fisheries study that is focused on the Beaufort Sea lagoons, including those in the 1002 area. I've attached the pdf of that presentation (the actual talk by Vanessa is at 1045 tomorrow morning).

Have a nice evening!

Ken

---

**From:** Wendy Loya [mailto:[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)]  
**Sent:** Tuesday, January 16, 2018 12:13 PM  
**To:** Dunton, Kenneth H <[ken.dunton@utexas.edu](mailto:ken.dunton@utexas.edu)>  
**Subject:** RE: Coastal Science for Arctic Refuge 1002 area

Hi Ken,

Thanks for the reply, please do look me up if you have time while in Anchorage. My work cell/text is 907-227-2942. Hoping to stop by AMSS for your talk next Thursday.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Dunton, Kenneth H [mailto:[ken.dunton@utexas.edu](mailto:ken.dunton@utexas.edu)]  
**Sent:** Sunday, January 14, 2018 7:21 PM  
**To:** Wendy Loya  
**Cc:** Paul Leonard  
**Subject:** RE: Coastal Science for Arctic Refuge 1002 area

Hi Wendy,

Good to hear from you. I'm very busy this week but will respond to you with a lot of information by Friday. I am leaving for Alaska this Friday for a couple of weeks (Anchorage, Fairbanks, Barter Island). Perhaps we can talk in person next week at AMSS since I doubt that I can make any phone calls before I depart Friday morning.

All the best!

Ken

---

**From:** Wendy Loya [[mailto:wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)]  
**Sent:** Thursday, January 11, 2018 4:54 PM  
**To:** Dunton, Kenneth H <[ken.dunton@utexas.edu](mailto:ken.dunton@utexas.edu)>  
**Cc:** Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>  
**Subject:** Coastal Science for Arctic Refuge 1002 area

Hi Ken,

I am the Arctic Landscape Conservation Cooperative Coordinator with FWS in Alaska. The FWS is in the process of identifying science needed to support decision-making for oil exploration and development in the 1002 area, and I have taken the lead on getting input from coastal experts (full disclosure: I am a terrestrial ecologist/recovering soil biogeochemist). I am aware that you are the PI on the new Beaufort Sea Lagoons LTER, which is very exciting for Alaska and the FWS.

We will attempt to succinctly answer these questions:

**What do we need to know and why regarding subjects?** We discussed that decisions affecting/involving coastal resources would include the following resource development issues: sea ice roads, sea ice airstrips, barge access, coastal infrastructure (e.g. pads, pipelines, docks), water treatment (desalinization input/output; other discharges), offshore gravel resources.

To address these issues, we need to understand:

1. Coastal erosion
2. Coastal geomorphology
3. Coastal bathymetry
4. Coastal habitats
5. Coastal water quality and chemistry
6. Barrier Island morphology/erosion

**What information is currently available to address the information needs for subjects?** [include citations – may want to refer to pending USGS annotated literature review?]

**What are key information gaps?**

**What studies/surveys need to be conducted to fill those information gaps?** Please include duration (start and end), staffing and cost estimates

I would like to include a description of the LTER effort with regards to the eastern Beaufort Sea in answering these questions, so I am wondering if I could talk with you or another one of the LTER researchers to understand what the near term 3-5 yr goals/work is for the LTER? It is probably a 1 hr conversation, then I will send out the document to those that have provided input for review and editing (between January 22 and February 9<sup>th</sup>), to meet a Feb 16<sup>th</sup> deadline.

Thank you in advance, I hope you have time to chat soon.

Best regards,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Martin, John](#)  
**To:** [Doug Damberg](#); [Drew Crane](#); [Ted Murphy](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Wayne Svejnoha](#); [Robert Brumbaugh](#); [Tracy Fischbach](#); [Steve Berendzen](#); [Joanna Fox](#); [Aimee Devaris](#); [John Pearce](#); [Wendy Loya](#); [Mark Miller](#)  
**Cc:** [Mitch Ellis](#); [Lor, Socheata](#); [Stephanie Brady](#); [Mary Colligan](#)  
**Subject:** Archive Documents for Leasing Management, Issues, MOU, Agency Roles for Coastal Plain 1002 Area circa 1990s  
**Date:** Wednesday, January 24, 2018 11:39:44 AM  
**Attachments:** [1 Proposed O&G Leasing Management Program USFWS13Apr1990 INTRO.pdf](#)  
[2 Proposed O&G Leasing Management Program USFWS13Apr1990 ISSUES.pdf](#)  
[3 Proposed O&G Leasing Management Program USFWS13Apr1990 MOU FWS-BLM.pdf](#)  
[4 Proposed O&G Leasing Management Program USFWS13Apr1990 APPENDIX.pdf](#)  
[1002 Area Leasing Questions 12Feb1991.pdf](#)  
[Exec Brief 1002 Area 1990 Field Season Report.pdf](#)  
[Exec Brief Coastal Plain O&G Leasing Issue Apr1991.pdf](#)

---

All

With the submission of the *Arctic National Wildlife Refuge, Alaska, coastal plain resources assessment: report and recommendation to the Congress of the United States and final legislative environmental impact statement* (Clough et al. 1987) there was a flurry of activity in the Alaska Region regarding leasing management plans prepared in successional iterations from 1988 and gradually ending about 1992 as interest waned and Administration changed. All of this effort was collaborative particularly between the Service and BLM as the active agents and the USGS in a consulting role.

A cursory review shows some of these issues may be relevant, if only for informational purposes, to ongoing efforts and may reduce any attempt to reinvent the wheel. There are obvious changes between then and now, most notable air quality, climate change, polar bear listing, subsistence resources and cumulative impacts.

Of interest may be the identification of agency roles and development of an MOU between the Service and BLM.

Circulated for your information and consideration. These documents come from the administrative files we have for Arctic Refuge. We were attempting to have these scanned by ARLIS but this effort is now on hold.

Please share as warranted.

John

#### Literature Cited

Clough, N.K., P.C. Patton, and A.C. Christiansen. 1987. Arctic National Wildlife Refuge, Alaska, coastal plain resources assessment: report and recommendation to the Congress of the United States and final legislative environmental impact statement (2 Volumes). Washington, D.C.: U.S. Department of the Interior, Geological Survey and Bureau of Land Management.

**From:** [Martin, John](#)  
**To:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Drew Crane](#); [Doug Damberg](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Taylor, Eric](#); [Wendy Loya](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [Tracy Fischbach](#); [John Pearce](#); [Aimee Devaris](#); [Christian Zimmerman](#); [David Houseknecht](#); [Marti Miller](#); [Todd Atwood](#); [Bruce Richmond](#); [Li Erikson](#); [Ann Gibbs](#); [Guy Gelfenbaum](#); [Heather Johnson](#); [Frank Urban](#); [Jeff Conaway](#); [Vanessa von Biela](#); [Sarah Ann Cook](#); [Brad Griffith](#); [Robert Brumbaugh](#); [Zachary Lyons](#); [Wayne Sveinoha](#); [Stacie McIntosh](#); [Steven Cohn](#); [Serena Sweet](#); [Nichelle \(Shelly\)](#); [Mark Miller](#); [Sara Longan](#); [Eric Geisler](#); [Alan Peck](#); [Catherine Coon](#); [David Payer](#)  
**Cc:** [Mitch Ellis](#); [Mary Colligan](#); [Lor, Socheata](#); [Ted Swem](#); [Stephanie Brady](#)  
**Subject:** Fwd: Corrected Coastal Plain oil and gas ownership map  
**Date:** Wednesday, January 24, 2018 9:57:58 AM  
**Attachments:** [Coastal Plain Oil and Gas Ownership - 42 x 24 \(03-0262\).pdf](#)  
[CFR 2002, Title 50, Vol 2, Part 37 \(Legal description only\).pdf](#)

---

All

Please find attached a corrected, up-to-date ownership map of the coastal plain 1002 area, Arctic National Wildlife Refuge, as identified via the 50 CFR 37 Appendix 1 (also attached).

The map is chart-sized 42x24 inch. Folks more clever than I will know how to size this but I do not.

This will be great for planning purposes and discipline discussions.

Thanks

John

----- Forwarded message -----

From: **Brady, Stephanie** <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>  
Date: Wed, Jan 24, 2018 at 7:46 AM  
Subject: Fwd: Corrected Coastal Plain oil and gas ownership map  
To: John Martin <[John\\_W\\_Martin@fws.gov](mailto:John_W_Martin@fws.gov)>

so you can have this as well -

[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov) | Branch Chief, Conservation Planning and Policy |  
U.S. Fish and Wildlife Service | National Wildlife Refuge System | Alaska |  
907.306.7448

----- Forwarded message -----

From: **McGee, Scott** <[scott\\_mcgee@fws.gov](mailto:scott_mcgee@fws.gov)>  
Date: Tue, Jan 23, 2018 at 3:37 PM  
Subject: Corrected Coastal Plain oil and gas ownership map  
To: "Brady, Stephanie" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, "Mollnow, Ryan" <[ryan\\_mollnow@fws.gov](mailto:ryan_mollnow@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>



All,

Last September, I sent you a map showing oil and gas ownership within the Arctic NWR Coastal Plain. Unfortunately, that map had an incorrect Coastal Plain boundary.

The legal description of the Coastal Plain boundary was published in the Federal Register in 1983 and in the Code of Federal Regulations in 2002 (2002 version attached). I have attached a new map (with associated acreages) that reflects the 1983 FR and 2002 CFR legal description of the Coastal Plain boundary. This map replaces the one that I sent last September. Do not use the previous map.

Also, note that the boundary of the Coastal Plain as shown on this new map is not the same as the boundary that was defined in the recent Tax Cuts and Jobs Act. That Act modified the 1983 FR and 2002 CFR boundary by incorporating the coastal lagoons east and west of Barter Island into the Coastal Plain, whereas before they were excluded from the Coastal Plain.

Let me know if you have any questions.

--



**Scott McGee**

Cartographer

(907) 786-3440

[scott\\_mcgee@fws.gov](mailto:scott_mcgee@fws.gov)

U.S. Fish & Wildlife Service

Division of Realty

1011 E. Tudor Road

Anchorage, AK 99503

***Need Refuge land status info for Alaska?***

[FWS Region 7 Land Mapper](#) (FWS version)

[FWS Region 7 Land Mapper](#) (Public version)

[Region 7 GeoPDF Map Portal](#)

***Office Hours***

Noon - 9:30 pm (Alaska)

1:00 pm - 10:30 pm (Pacific)

2:00 pm - 11:30 pm (Mountain)

3:00 pm - 12:30 am (Central)

4:00 pm - 1:30 am (Eastern)

**From:** [Miller, Mark](#)  
**To:** [Martin, John](#); [Wendy M. Loya, PhD](#)  
**Subject:** Article: ConocoPhillips to drill Putu with unprecedented mitigation steps  
**Date:** Thursday, January 25, 2018 10:46:32 AM

---

Just fyi -

Electrified drill rig, noise monitoring, and a noise barrier (assuming sufficient snow for a berm) - significant mitigations in response to Nuiqsut concerns.

<http://www.alaskajournal.com/2018-01-24/conocophillips-drill-putu-unprecedented-mitigation-steps#.WmoT87enGUk>

---

**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

**From:** [Martin, John](#)  
**To:** [Stephanie Brady](#); [Doug Damberg](#); [Drew Crane](#); [Lor, Socheata](#); [Mary Colligan](#); [Eric Taylor](#); [Gene Peltola](#); [Wendy Loya](#)  
**Cc:** [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Sarah Conn](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [Tracy Fischbach](#); [Catherine Collins](#); [Tim Allen](#); [Mitch Ellis](#); [Ted Swem](#)  
**Subject:** Coastal Plain 1002 Area: Lessons Learned from Other Interagency Planning Efforts  
**Date:** Thursday, January 25, 2018 10:57:47 AM  
**Attachments:** [LESSONS LEARNED FOR ALASKA REGION PLANNING 25Jan2017.docx](#)

---

All

Attached is a lessons-learned summary developed following a sustained interagency coordination and collaboration between the BLM and Service, including applicable LCCs, for the development of BLM Resource Management Plans and adapted for consideration in moving forward with coastal plain 1002 area oil and gas exploration and development.

The take-home message is: (1) the cultivation of interdisciplinary teams (IDTs) that involve long-term commitment of knowledgeable staff, and (2) facilitation as a means of engagement and motivation in moving the effort forward in a meaningful manner.

For your consideration as roles and responsibilities continue to be discussed among the relevant agencies, and eventually beyond this core group.

Thanks

John

**From:** [Martin, John](#)  
**To:** [Conn, Sarah](#)  
**Cc:** [Stephanie Brady](#); [Doug Damberg](#); [Drew Crane](#); [Lor, Socheata](#); [Mary Colligan](#); [Eric Taylor](#); [Gene Peltola](#); [Wendy Loya](#); [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Ronnie Sanchez](#); [Cribley, Bud](#); [Jenifer Kohout](#); [Putnam, Christopher](#); [Patrick Lemons](#); [Paul Leonard](#); [Edward Decleva](#); [Douglas Campbell](#); [Diane Granfors](#); [John Trawicki](#); [Greta Burkart](#); [Janet Jorgenson](#); [Richard Lanctot](#); [Christopher Latty](#); [Angela Matz](#); [Randy Brown](#); [Bob Henszey](#); [Hollis Twitchell](#); [Kaithryn Ott](#); [Margaret Perdue](#); [Joshua Rose](#); [Louise Smith](#); [Scott Covington](#); [Patrick O'Dell](#); [Tracy Fischbach](#); [Catherine Collins](#); [Tim Allen](#); [Mitch Ellis](#); [Ted Swem](#)  
**Subject:** Re: Coastal Plain 1002 Area: Lessons Learned from Other Interagency Planning Efforts  
**Date:** Thursday, January 25, 2018 12:52:47 PM

---

Sarah

Thanks for asking. In the spirit of getting and giving information, I'll answer your question, or parts thereof. I trust this may be useful to others.

Without doubt, depending on agency background, discipline specialty, and even the organizational behavior conveyed by office leadership personality, all will greatly influence the point-of-view on lessons-learned.

As an agency, the Service got involved in the Eastern Interior RMP nearly after-the-fact. However, this spurred an interest to get engaged earlier in the process. More so because our LCC efforts, i.e., landscape approach, was getting up to working speed - it was beneficial to work with you to identify resources of concern, not always limited to a species or place, at the same scales as the BLM. At the same time, the Alaska Region was conducting a review of priority resources and areas on Refuges and among Service program activities - akin to your ACECs. As you are keenly aware, resources know no boundaries. We fully engaged with the Central Yukon (CY) and Bering Sea Western Interior (BSWI) RMPs. Yes, Refuges to varying degrees (Kanutu especially) engaged at one level while the Regional Office (Stephanie Brady, Brian McCaffery, Pete Wikoff and I) provided that larger, multiple-refuge perspective at another level.

As a result of our long-term engagement in the RMP process (since late 2013 for me) up until recently when there were more things to do than available staff, which all of us can appreciate, we (Brian and I) noted differing approaches to the NEPA process and general planning by BLM and Service.

Chief among these was us use of facilitators to move the process along - I might add a very gifted facilitator given that the individual I am referring never worked for the BLM let alone the federal government. Then there was the use of interdisciplinary teams (IDTs) of mid- to senior staff that could adequately speak on behalf of their respective disciplines and were fully engaged, and with other pertinent disciplines as warranted. And if the needed discipline was not present, somebody went down the hall and got them or got them on the phone, and they were available. Brian and I respected and appreciated that presence. Also, there was the long-term commitment by staff - process and consistency for the (then) 5-year stepwise EIS, scoping through ROD. In the future, this may be altered radically under the streamlined infrastructure NEPA compliance with a 1-year timeframe (with allowance for longer).

If you are interested in more, I generated a white-paper narrative on lessons-learned from our RMP engagement (boring - not attached) but Brian prepared a brilliant, clever power point that does a much better job (attached - not attached as its too big).

Thanks for your interest.

John

On Thu, Jan 25, 2018 at 9:32 AM, Conn, Sarah <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)> wrote:

Thanks for sending all these various pieces of information out John.

For the lessons learned document I'd really appreciate a bit more context. Where did this come from, whose lessons are they? Both the Fairbanks Field Office and Kanuti Refuge (and other FWS staff) were quite heavily involved in BLM's Central Yukon planning process, and the Fairbanks Field Office has worked on many iterations of BLM's NPR-A integrated activity plans. I think, if asked, and depending on the purpose and audience, we may have some rather different lessons learned. Regardless, I'm not clear who the audience is and purpose of the document although it does contain some useful thoughts and suggestions.

Thanks,

Sarah

On Thu, Jan 25, 2018 at 8:57 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Attached is a lessons-learned summary developed following a sustained interagency coordination and collaboration between the BLM and Service, including applicable LCCs, for the development of BLM Resource Management Plans and adapted for consideration in moving forward with coastal plain 1002 area oil and gas exploration and development.

The take-home message is: (1) the cultivation of interdisciplinary teams (IDTs) that involve long-term commitment of knowledgeable staff, and (2) facilitation as a means of engagement and motivation in moving the effort forward in a meaningful manner.

For your consideration as roles and responsibilities continue to be discussed among the relevant agencies, and eventually beyond this core group.

Thanks

John

**From:** [Martin, John](#)  
**To:** [Diane Granfors](#); [John Trawicki](#); [Stephanie Brady](#); [Debbie Steen](#); [Douglas Campbell](#); [John Brewer](#); [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Edward Decleva](#); [Doug Damberg](#); [Drew Crane](#); [Lor. Socheata](#); [Tracy Fischbach](#); [Mary Colligan](#); [Sarena Selbo](#); [Gene Peltola](#); [Tom Doolittle](#); [Wendy Loya](#); [Mark Miller](#)  
**Subject:** Re: Coastal Plain 1002 Area Information Needs for Resource Management and Oil and Gas Program Decision-making  
**Date:** Thursday, January 25, 2018 8:59:39 AM  
**Attachments:** [Table - Discipline Subjects & Interagency Teams 23Jan2018pmUPDATED.docx](#)  
[ALASKA INFORMATION NEEDS 25Jan2018amv4.docx](#)

---

All

This request was distributed on 9 Jan 2018 to Refuges - DRAFT *Alaska Region Information Needs to Move Forward regarding Arctic Refuge Oil and Gas Program: Exploration and Leasing* (attached – dated 25 Jan 2018).

We are now asking for input from all Alaska Region Service activity programs – OSM, MBM, FES and Science Applications.

Since the initial distribution, we have identified interagency, interdisciplinary teams with interim team leads for a DOI resource assessment needs due mid-Feb (attached table).

The BLM Leasing Workshop last Fri 19 Jan provided an overview of the oil and gas industry – exploration, development, production and transportation, along with tenets of leasing management, at least as applicable to the National Petroleum Reserve – Alaska (NPRA) including NEPA and other relevant statutory and regulatory requirements. This workshop also served as a catalyst for further discussions regarding the roles and responsibilities of all the agencies involved - BLM, USGS and Service.

Due to the evolving nature of the coastal plain 1002 area communications, the initial request was at an overview level. We now need refinements scaled down for field level considerations and decision-making.

Please review and provide any comments or additional considerations by **COB 15 Feb 2018** for consolidation and review by the Regional Director.

Thanks

John

On Tue, Jan 9, 2018 at 1:11 PM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Please find attached a draft list of questions and/or information needs for consideration as we evaluate oil and gas exploration and development within Arctic National Wildlife Refuge. In the near future, we will be reaching out to other directorates (FES, MBM, OSM) for input, as these same needs may reflect their own.

Should you have comments or additions that would help in planning or management decisions now and into the future, please edit or add these to the list. As this is a fast-paced effort, please provide responses to me by COB Thu 18 Jan 2018. The final synthesized list will be provided to the Regional Director as he engages with peer agencies, HQ and DOI.

If I may provide additional information or if you have any questions, please so advise.

Thanks

John

**From:** [Crane Johnson - NOAA Federal](#)  
**To:** [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov); [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**Cc:** [Scott Lindsey - NOAA Federal](#); [Dave Streubel](#)  
**Subject:** Follow up  
**Date:** Friday, January 26, 2018 4:43:09 PM  
**Attachments:** [2015 North Slope Peak Flood Shell T1 Fld-Pk Rpt 20150121 \(final\) PUBLIC.pdf](#)

---

Paul and Wendy,

Attached is the 2015 Shell report. It provides a good compilation of river data collected on the Northslope as well as a data gap analysis to guide future stream gage placement to the west of the Dalton Highway.

The river I couldn't recall was the Ivishak.

Regards,  
Crane

--

Crane Johnson, P.E.  
Service Coordination Hydrologist  
NWS Alaska Pacific River Forecast Center  
[benjamin.johnson@noaa.gov](mailto:benjamin.johnson@noaa.gov)  
[907.266.5158](tel:907.266.5158)

<http://www.weather.gov/aprfc/>



**From:** [Arthur, Stephen](#)  
**To:** [Christopher Latty](#); [Burkart, Greta](#); [Janet Jorgenson](#); [Churchwell, Roy](#); [Payer, David](#); [Richard Lanctot](#); [Wendy Loya](#)  
**Cc:** [Martin, John](#)  
**Subject:** Draft outline for 1002 status report  
**Date:** Friday, January 26, 2018 4:45:47 PM  
**Attachments:** [Outline for 1002 status reports.docx](#)

---

For those of us working on status reports for specific species or species groups, I thought it might be helpful to have a common framework to use. Thus, I put together a rough draft of a potential outline, which is basically a list of topics that we might consider (attached). I'm not sure how well this relates to the vegetation, aquatic, and physical resources but it might be worth thinking about for those as well.

We still need some guidance on how much detail these reports should include (I assume these are expected to be summaries rather than in-depth reports).

I think a lot of this information is contained in the ANWR CCP or other reports, but it needs to be condensed to be useful as a quick reference.

Let me know if you think this is outline useful, or if you have other ideas.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
101 12th Ave., Room 236  
Fairbanks, AK 99701  
(907)455-1830*

**From:** [Selbo, Sarena](#)  
**To:** [FW7 Science Applications Staff](#)  
**Subject:** Fwd: Alaska's Arctic pivot  
**Date:** Friday, January 26, 2018 2:34:51 PM  
**Attachments:** [Arctic LCC Pivot January 2018.docx](#)

---

FYI - an example of how we are pivoting shared with the SA Leadership Team

----- Forwarded message -----

From: **Selbo, Sarena** <[sarena\\_selbo@fws.gov](mailto:sarena_selbo@fws.gov)>  
Date: Fri, Jan 26, 2018 at 7:55 AM  
Subject: Alaska's Arctic pivot  
To: FWS ARD's for Science Applications <[ardforscienceapplications@fws.gov](mailto:ardforscienceapplications@fws.gov)>, Benjamin Tuggle <[Benjamin\\_Tuggle@fws.gov](mailto:Benjamin_Tuggle@fws.gov)>, Seth Mott <[seth\\_mott@fws.gov](mailto:seth_mott@fws.gov)>, Elsa Haubold <[elsa\\_haubold@fws.gov](mailto:elsa_haubold@fws.gov)>

Much of the Arctic LCC's science investment to-date and the skills of our Science Applications staff make our team a natural fit for providing leadership and science coordination as FWS Region 7 prepares to work with the Department of Interior to open the Arctic National Wildlife Refuge for Oil and Gas development. Our Arctic partnership had already made plans to convene working groups around Cumulative Impacts Analyses, Caribou Connectivity, Hydrologic Monitoring and Modeling and Coastal Issues, all of which fit with regional science needs. Now, with an immediate need to develop a leasing plan for the 1002 area, the Arctic Science Applications staff will lead assimilation of the individual resource assessments developed by partners for high priority natural resource needs (e.g. polar bears, snow, hydrology, caribou, etc.) and lead a prioritization discussion of what science needs to be done when, to avoid delays. Our existing relationships with BLM, USGS, BOEM, NOAA, Alaska Department of Fish and Game, Alaska Department of Natural Resources, the North Slope Borough Wildlife Management Department and others will help ensure we have the best available information and a clear understanding of what science the FWS and BLM need. In addition to this important science support, our overall program meets all of the recommended roles for Science Applications operations in 2018 (please see attached).

--

Sarena M. Selbo  
Assistant Regional Director  
Science Applications - Alaska Region  
U.S. Fish and Wildlife Service  
1011 East Tudor Road  
Anchorage, Alaska 99503  
907-786-3380

--

Sarena M. Selbo  
Assistant Regional Director  
Science Applications - Alaska Region  
U.S. Fish and Wildlife Service  
1011 East Tudor Road  
Anchorage, Alaska 99503  
907-786-3380

**From:** [Matthew Sturm](#)  
**To:** [Loya, Wendy](#)  
**Cc:** [Paul Leonard](#); [Frank Urban](#)  
**Subject:** Re: snow & 1002  
**Date:** Saturday, January 27, 2018 7:37:55 AM

---

Hi Wendy:

1. Both lidar and SfM would work in February assuming decent lighting.
2. Probably don't have snowfree lidar or SfM for the 1002 area. I have seen the coastal lidar....it goes inland a very short way...perhaps only a km or so.
3. It is Sat. probably best to call me at [REDACTED] to discuss. There are some possibilities...but also pitfalls with commercial lidar and SfM.

On 1/26/18 3:13 PM, Loya, Wendy wrote:

Hi Matthew,

Would you be able to give me a ring or drop me a line with your thoughts on this question:

I anticipate that some initial snow assessment might be able to be prioritized. The polar bear team is issuing contract in the next few days for a company to fly FLIR for polar bear dens as early as next month (February 2018). I don't know anything about the company or their capabilities, but I am wondering if it is worth a quick scoping of what an ask for Lidar or Photogrammetry (SfM) would be that they might be able to collect while up there? I have in my notes that Lidar is appropriate for winter, SfM is not. I don't know if we have snow free Lidar for the 1002 area, but believe something has been flown for the coast but not sure how far inland. Anyway, a lot of unknowns but a potential opportunity to see what is on the ground now as a datapoint towards multi-year assessment?

Thanks,  
Wendy  
907-786-3532

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.277.2942 (mobile)

On Fri, Jan 19, 2018 at 9:46 AM, Matthew Sturm <[msturm1@alaska.edu](mailto:msturm1@alaska.edu)> wrote:

Dear Paul, Wendy (and for Frank, for your FYI):

As promised, here is a informal write-up about snow and the 1002 area based on our recent discussions. My conversation with my NASA program manager was noncommittal, as might be expected. Other options for funding work this spring will take more time and

considerably more grooming.

Matthew

--

Dr. Matthew Sturm  
Geophysical Institute  
University of Alaska-Fairbanks  
907-474-5257  
[msturm1@alaska.edu](mailto:msturm1@alaska.edu)

--

Dr. Matthew Sturm  
Geophysical Institute  
University of Alaska-Fairbanks  
907-474-5257  
[msturm1@alaska.edu](mailto:msturm1@alaska.edu)

**From:** [Wendy Loya](#)  
**To:** [Socheata Lor](#); [John Pearce](#)  
**Cc:** [Miriam \(Nicole\) Hayes](#)  
**Subject:** RE: Meeting early next week?  
**Date:** Monday, January 29, 2018 10:02:56 AM

---

Hi John,

I can do either of those times.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Lor, Socheata [mailto:[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)]  
**Sent:** Monday, January 29, 2018 7:44 AM  
**To:** Pearce, John  
**Cc:** Miriam (Nicole) Hayes; Wendy Loya  
**Subject:** Re: Meeting early next week?

Hi John,

Excellent idea to meet! Just so you know, Wendy Loya is the FWS's main point of contact for the 1002. We decided this last Friday. She may be more appropriate at the meeting, and I'm copying her on this email. If you'd like me to attend as well, let me know.

**Soch**

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

On Fri, Jan 26, 2018 at 11:19 AM, Pearce, John <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)> wrote:  
Hi Soch and Nicole,

Would you two be available for a phone meeting early next week? Either Monday afternoon (1 pm) or Tuesday morning (10 am)? I just wanted to touch base on USGS likely coastal plain activities for the next few months.

Let me know and I can send a call-in number.

Thanks,  
John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
[4210 University Drive](#)  
[Anchorage, Alaska 99508](#)  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

**From:** [Lor, Socheata](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Brady, Stephanie](#); [Fischbach, Tracy](#)  
**Subject:** Fwd: Invitation: Arctic Refuge 1002 Planner Meeting @ Tue Jan 30, 2018 1pm - 3pm (AKST) (socheata\_lor@fws.gov)  
**Date:** Monday, January 29, 2018 10:16:43 AM  
**Attachments:** [invite.ics](#)

---

Tracy and Stephanie,

Please add Wendy to the meeting. I'll try to catch both of you before the RDT meeting at 9 or after.

**Soch**

~~~~~  
*Socheata Lor, Ph.D.  
Acting Assistant Regional Director - Region 7  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
Office: 907.786.3420  
Cell: 907.891.6194*  
~~~~~

----- Forwarded message -----

**From:** Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>  
**Date:** Thu, Jan 25, 2018 at 10:22 AM  
**Subject:** Invitation: Arctic Refuge 1002 Planner Meeting @ Tue Jan 30, 2018 1pm - 3pm (AKST) ([socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov))  
**To:** [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov), [stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov), [doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov), [drew\\_crane@fws.gov](mailto:drew_crane@fws.gov), [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov), [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)

### Arctic Refuge 1002 Planner Meeting

[more details »](#)

Nicole Hayes and Serena Sweet from BLM will join us to talk about the upcoming planning process for oil & gas exploration and development in the Arctic Refuge 1002 area.

**When** Tue Jan 30, 2018 1pm – 3pm Alaska Time

**Where** FWS-FW7 Science Application Conference Room/Regional Office ([map](#))

**Video call** [65-CIP](#)

**Calendar** [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)

**Who**

- [tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov) - organizer
- [stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)
- [doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)
- [drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)
- [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)
- [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)
- [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)



Going? [Yes](#) - [Maybe](#) - [No](#) [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov) because you are subscribed for invitations on calendar [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More](#).

**From:** [Wendy Loya](#)  
**To:** [Tracy Fischbach](#)  
**Subject:** Accepted: Arctic Refuge 1002 Planner Meeting

---

**From:** [Wendy Loya](#)  
**To:** [Socheata Lor](#)  
**Subject:** Accepted: 1002 Coordination catch-up

---

**From:** [Martin, John](#)  
**To:** [Arthur, Stephen](#)  
**Cc:** [Christopher Latty](#); [Burkart, Greta](#); [Janet Jorgenson](#); [Churchwell, Roy](#); [Payer, David](#); [Richard Lanctot](#); [Wendy Loya](#); [Drew Crane](#); [Doug Damberg](#); [Lor, Socheata](#); [Mary Colligan](#); [Eric Taylor](#); [Hayes, Miriam \(Nicole\)](#); [John Pearce](#)  
**Subject:** Re: Draft outline for 1002 status report  
**Date:** Monday, January 29, 2018 11:04:50 AM

---

Arthur

Thanks for sharing. The species coverage is rigorous in depth and breadth for biological entities. I believe there may be some tenets tracable to the Alaska Region conservation frameworks and species priorities under strategic habitat conservation from a few years back. This will be critically needed as we move forward. Right now, it may be a bit more involved for the overview assessment plus the short suspense of where we are now and what do we need to know for short-term decisions (moving forward in a tiered manner). On the other hand, things are still being sorted on how the process will be handled among the agencies.

Am routing this for consideration and application in our resource assessment needs.

Thanks

John

On Fri, Jan 26, 2018 at 2:45 PM, Arthur, Stephen <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)> wrote:

For those of us working on status reports for specific species or species groups, I thought it might be helpful to have a common framework to use. Thus, I put together a rough draft of a potential outline, which is basically a list of topics that we might consider (attached). I'm not sure how well this relates to the vegetation, aquatic, and physical resources but it might be worth thinking about for those as well.

We still need some guidance on how much detail these reports should include (I assume these are expected to be summaries rather than in-depth reports).

I think a lot of this information is contained in the ANWR CCP or other reports, but it needs to be condensed to be useful as a quick reference.

Let me know if you think this is outline useful, or if you have other ideas.

Steve

**Stephen M. Arthur, Ph.D.**

*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
101 12th Ave., Room 236  
Fairbanks, AK 99701  
(907)455-1830*

**From:** [Martin, John](#)  
**To:** [Crane, Drew](#)  
**Cc:** [Stephanie Brady](#); [Doug Damberg](#); [Lor, Socheata](#); [Wendy Loya](#); [Mary Colligan](#); [Hayes, Miriam \(Nicole\)](#); [John Pearce](#)  
**Subject:** Re: Coastal Plain 1002 Area Resource Assessment Needs Suspense & Reporting Process  
**Date:** Monday, January 29, 2018 12:19:54 PM

---

Drew

Thanks for your reply. This is great news and very essential.

Any suggestions on final reporting? Had initially envisioned a memo, bullet-style report: what we know about the resource now and what information is needed for decisions, with emphasis on exploration as opposed to the larger, long-term leasing management and oil-gas field development. But would like to vet this with you and others before sending out to larger discipline teams.

Thanks

J

On Mon, Jan 29, 2018 at 10:05 AM, Crane, Drew <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)> wrote:

Hi John,

Just a quick update on timing. The due date for the teams to supply the requested information is still Feb 15/16. Greg has indicated we will have time to do any review and formatting after that date, but we will need to do it quickly (within a week or so was mentioned). I don't have any additional information related to your question on depth and breadth.

Thanks

Drew Crane  
Deputy Chief of Refuges, Acting  
Alaska Region  
U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)  
[907-786-3323](#)

On Mon, Jan 29, 2018 at 9:16 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Stephanie

The due date for the subject assessment to DOI is 15 Feb which allows no time for collation, synthesis, or editing. Therefore, I am suggesting that COB 8 Feb be the deadline for discipline team submissions.

Given that, there is little time for the BLM and Service to sort things out further as to teams and POCs (leads), let alone actual generation of the assessments.

Also, there has been no guidance regarding what coverage DOI is seeking relative to depth and breadth. I have had several suggestions but these are primarily species-centric and do not allow for less tangibles like wilderness values, nor physicals like water, air or noise.

Is there any guidance from the oversight team? We are running out of time.

John

**From:** [Martin, John](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Coastal Plain 1002 Area Resource Assessment Needs Suspense & Reporting Process  
**Date:** Monday, January 29, 2018 1:27:53 PM

---

Sorry for the delay in response - was talking with Stephanie.

Will be here all day. Call when you get some time.

On Mon, Jan 29, 2018 at 11:04 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

John, I will call you when I get in and we can chat. I think it would be good for us to have a proposal for coordination of science assessment. Having a proposal is a great way to get feedback.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Jan 29, 2018, at 10:47, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Wendy

Thanks for your reply. Drew just wrote to advise that the due date is 15 Feb for all raw reports and will use the following week to collate, synthesize and edit. That provides a bit of breathing room - at least for me.

Stephanie, my supervisor, is coming in to town today. And tomorrow is a BLM-Service meeting tomorrow that I have no inkling regarding the agenda other than the title "planning." This may relate to BLM-Service roles and responsibilities, and BLM contribution to discipline teams.

So can get together if you wish.

John

On Mon, Jan 29, 2018 at 10:38 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

The Arctic LCC Staff are here to help with the science planning. Let's chat today about what you see as next steps for Resource Assessments and compilation and then work with everyone to get their input and make a plan. I agree that waiting until 16th for documents and having little time to compile and prioritize puts us in a stressful position.

Want to meet in my office at 1130?

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Jan 29, 2018, at 10:13, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Wendy

Thanks for your reply and good suggestions.

We are to thin and spread out in disparate offices, and now appear to be waiting for the BLM to join in at the discipline team level. Was hoping our leadership would step up in the void and provide some direction. I am just too far down the food chain to make anything happen and its pushing uphill all the way. Was advised last week that new 1002 coordinators (two at two levels: one field or station and another at RO reporting directly to RD) may be months out before they are in place.

Maybe the planning meeting tomorrow will provide some information.

Thanks

John

On Mon, Jan 29, 2018 at 9:50 AM, Wendy Loya  
<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

John,

Should we try to get FWS team leads together early this week for a meeting to touch base on the assessments? I think it would be good to hear where people are at and the challenges they are facing in completing them. If we are moving fast we want everyone to be aware and ready to move into a prioritization process. I am also concerned that our teams don't have enough outside expertise included, so maybe our near term goal is best available knowledge and immediate needs for winter 2018-19; but we keep the teams working to expand the documents into a robust science plan?

We can chat today if you want, I will be back in office by noon; teleworking this morning.

Thanks,  
Wendy



Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Jan 29, 2018, at 09:16, Martin, John  
<[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Stephanie

The due date for the subject assessment to DOI is 15 Feb which allows no time for collation, synthesis, or editing. Therefore, I am suggesting that COB 8 Feb be the deadline for discipline team submissions.

Given that, there is little time for the BLM and Service to sort things out further as to teams and POCs (leads), let alone actual generation of the assessments.

Also, there has been no guidance regarding what coverage DOI is seeking relative to depth and breadth. I have had several suggestions but these are primarily species-centric and do not allow for less tangibles like wilderness values, nor physicals like water, air or noise.

Is there any guidance from the oversight team? We are running out of time.

John

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

**From:** [Miller, Mark](#)  
**To:** [Wendy M. Loya, PhD](#)  
**Subject:** Fwd: ASWS Request: Bibliography Summary of USGS Studies in NPRA and Area 1002  
**Date:** Monday, January 29, 2018 2:16:25 PM  
**Attachments:** [USGS bibliography NPRA and 1002 Research 1 19 2018 FINAL.docx](#)

---

Fyi - in case this doesn't otherwise get to you.

~~~~~  
**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513  
~~~~~

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

----- Forwarded message -----

**From:** Mouritsen, Karen <[kmourits@blm.gov](mailto:kmourits@blm.gov)>  
**Date:** Mon, Jan 29, 2018 at 10:53 AM  
**Subject:** Fwd: ASWS Request: Bibliography Summary of USGS Studies in NPRA and Area 1002  
**To:** Michael Nedd <[mnedd@blm.gov](mailto:mnedd@blm.gov)>, Timothy Spisak <[tspisak@blm.gov](mailto:tspisak@blm.gov)>, Jeff Brune <[jbrune@blm.gov](mailto:jbrune@blm.gov)>, Kristin Bail <[kbail@blm.gov](mailto:kbail@blm.gov)>  
**Cc:** Ted Murphy <[t75murph@blm.gov](mailto:t75murph@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>, Marlo Draper <[mdraper@blm.gov](mailto:mdraper@blm.gov)>, "Nichelle (Shelly) Jones" <[njones@blm.gov](mailto:njones@blm.gov)>, "Miriam (Nicole) Hayes" <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, "Miller, Mark" <[memiller@blm.gov](mailto:memiller@blm.gov)>

Hello, attached is an interesting document from USGS which is a bibliography of recent USGS studies in the NPR-A and Arctic Refuge areas. The Assistant Secretary for Water and Science asked for this, and USGS shared with us. Just FYI. Sara, I am sure you already have seen these studies and have them on the NSSI website, but sharing just so you know this document is out there. Thanks, Karen

Karen E. Mouritsen  
Acting State Director for BLM-Alaska  
phone 907-271-5080  
cell 202-329-2030

----- Forwarded message -----

**From:** Devaris, Aimee <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>  
**Date:** Thu, Jan 25, 2018 at 6:13 PM  
**Subject:** Fwd: ASWS Request: Bibliography Summary of USGS Studies in NPRA and Area 1002  
**To:** Karen Mouritsen <[kmourits@blm.gov](mailto:kmourits@blm.gov)>, Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>

Karen, Greg,

Just sharing this in case it is of use to you/your folks. Our Assistant Secretary asked for it. It's a bibliography of USGS research conducted in the NPRA and the 1002 Area of ANWR.

Regards,  
Aimee

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** FW: ASWS Request: Bibliography Summary of USGS Studies in NPRA and Area 1002  
**Date:** Monday, January 29, 2018 2:17:10 PM  
**Attachments:** [USGS bibliography NPRA and 1002 Research 1\\_19\\_2018 FINAL.docx](#)

---

Fyi, haven't looked at.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]  
**Sent:** Monday, January 29, 2018 12:16 PM  
**To:** Wendy M. Loya, PhD  
**Subject:** Fwd: ASWS Request: Bibliography Summary of USGS Studies in NPRA and Area 1002

Fyi - in case this doesn't otherwise get to you.

---

~~~~~  
**Mark E. Miller, PhD | Deputy Director**  
North Slope Science Initiative | <http://www.NorthSlopeScience.org>  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

----- Forwarded message -----

**From:** Mouritsen, Karen <[kmourits@blm.gov](mailto:kmourits@blm.gov)>  
**Date:** Mon, Jan 29, 2018 at 10:53 AM  
**Subject:** Fwd: ASWS Request: Bibliography Summary of USGS Studies in NPRA and Area 1002  
**To:** Michael Nedd <[mnedd@blm.gov](mailto:mnedd@blm.gov)>, Timothy Spisak <[tspisak@blm.gov](mailto:tspisak@blm.gov)>, Jeff Brune <[jbrune@blm.gov](mailto:jbrune@blm.gov)>, Kristin Bail <[kbail@blm.gov](mailto:kbail@blm.gov)>  
**Cc:** Ted Murphy <[t75murph@blm.gov](mailto:t75murph@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>, Marlo Draper <[mdraper@blm.gov](mailto:mdraper@blm.gov)>, "Nichelle (Shelly) Jones" <[njones@blm.gov](mailto:njones@blm.gov)>, "Miriam (Nicole) Hayes" <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>, Sara Longan <[slongan@blm.gov](mailto:slongan@blm.gov)>, "Miller, Mark" <[memiller@blm.gov](mailto:memiller@blm.gov)>

Hello, attached is an interesting document from USGS which is a bibliography of recent USGS studies in the NPR-A and Arctic Refuge areas. The Assistant Secretary for Water and Science asked for this, and USGS shared with us. Just FYI. Sara, I am sure you already have seen these studies and have them on the NSSI website, but sharing just so you know this document is out there. Thanks, Karen

Karen E. Mouritsen  
Acting State Director for BLM-Alaska  
phone 907-271-5080  
cell 202-329-2030

----- Forwarded message -----

From: **Devaris, Aimee** <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>

Date: Thu, Jan 25, 2018 at 6:13 PM

Subject: Fwd: ASWS Request: Bibilography Summary of USGS Studies in NPRA and Area 1002

To: Karen Mouritsen <[kmourits@blm.gov](mailto:kmourits@blm.gov)>, Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>

Karen, Greg,

Just sharing this in case it is of use to you/your folks. Our Assistant Secretary asked for it. It's a bibliography of USGS research conducted in the NPRA and the 1002 Area of ANWR.

Regards,  
Aimee

**From:** [Wendy Loya](#)  
**To:** [Jorgenson, Janet](#)  
**Subject:** Re: I'm back from vacation  
**Date:** Monday, January 29, 2018 3:04:11 PM

---

Welcome back Janet!! Glad to have you back and hope you had a good trip (Thailand?). Can I call you at 3:00 to touch base? Or tomorrow morning?

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Jan 29, 2018, at 12:37, Jorgenson, Janet <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)> wrote:

I assume I am supposed to work with you on the vegetation sections of 1002 document. Do you have an outline or draft to share with me? I gathered some info before I left and will get that together to send to you.

--

Janet C. Jorgenson  
Botanist  
Arctic National Wildlife Refuge  
101 12th Ave, Rm 236  
Fairbanks, Alaska 99701

907-456-0216

**From:** [Wendy Loya](#)  
**To:** [John Martin](#)  
**Subject:** RE: Coastal Plain 1002 Area Resource Assessment Needs Suspense & Reporting Process  
**Date:** Monday, January 29, 2018 4:27:20 PM

---

Hi John,

This day is slipping away with last minute meetings, so why don't we put something on the calendar to talk tomorrow morning if you are available. Would 9am work for you? I am looking forward to working with you through this process, and hopefully together we can pull in the human resources needed to make a strong science plan.

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Martin, John [mailto:[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)]  
**Sent:** Monday, January 29, 2018 1:44 PM  
**To:** Wendy Loya  
**Subject:** Re: Coastal Plain 1002 Area Resource Assessment Needs Suspense & Reporting Process

Wendy

Stephanie just advised me of your new responsibilities for the coastal plain 1002 area. I welcome the change and having a point person to whom to go with questions. And regarding the latter, what do you perceive as planning's role and responsibilities in moving this matter forward? What are our priorities and duties? Please advise how I may assist you.

Congratulations.

John

On Mon, Jan 29, 2018 at 11:04 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:  
John, I will call you when I get in and we can chat. I think it would be good for us to have a proposal for coordination of science assessment. Having a proposal is a great way to get feedback.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Jan 29, 2018, at 10:47, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Wendy

Thanks for your reply. Drew just wrote to advise that the due date is 15 Feb for all raw reports and will use the following week to collate, synthesize and edit. That provides a bit of breathing room - at least for me.

Stephanie, my supervisor, is coming in to town today. And tomorrow is a BLM-Service meeting tomorrow that I have no inkling regarding the agenda other than the title "planning." This may relate to BLM-Service roles and responsibilities, and BLM contribution to discipline teams.

So can get together if you wish.

John

On Mon, Jan 29, 2018 at 10:38 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

The Arctic LCC Staff are here to help with the science planning. Let's chat today about what you see as next steps for Resource Assessments and compilation and then work with everyone to get their input and make a plan. I agree that waiting until 16th for documents and having little time to compile and prioritize puts us in a stressful position.

Want to meet in my office at 1130?

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Jan 29, 2018, at 10:13, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Wendy

Thanks for your reply and good suggestions.

We are too thin and spread out in disparate offices, and now appear to be waiting for the BLM to join in at the discipline team level. Was hoping our leadership would step up in the void and provide some direction. I am just too far down the food chain to make anything happen and it's pushing uphill all the way. Was advised last week that new 1002 coordinators (two at two levels: one field or station and another at RO reporting directly to RD) may be months out before they are in place.

Maybe the planning meeting tomorrow will provide some information.



Thanks

John

On Mon, Jan 29, 2018 at 9:50 AM, Wendy Loya

<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

John,

Should we try to get FWS team leads together early this week for a meeting to touch base on the assessments? I think it would be good to hear where people are at and the challenges they are facing in completing them. If we are moving fast we want everyone to be aware and ready to move into a prioritization process. I am also concerned that our teams don't have enough outside expertise included, so maybe our near term goal is best available knowledge and immediate needs for winter 2018-19; but we keep the teams working to expand the documents into a robust science plan?

We can chat today if you want, I will be back in office by noon; teleworking this morning.

Thanks,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Jan 29, 2018, at 09:16, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Stephanie

The due date for the subject assessment to DOI is 15 Feb which allows no time for collation, synthesis, or editing. Therefore, I am suggesting that COB 8 Feb be the deadline for discipline team submissions.

Given that, there is little time for the BLM and Service to sort things out further as to teams and POCs (leads), let alone actual generation of the assessments.

Also, there has been no guidance regarding what coverage DOI is seeking relative to depth and breadth. I have had several suggestions but these are primarily species-centric and do not allow for less tangibles like wilderness values, nor physicals like water, air or noise.

Is there any guidance from the oversight team? We are running out of time.

John

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

**From:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)

**To:** [Socheata Lor](#)

**Subject:** Accepted: 1002 Coastal Plain Coordination Biweekly Meeting (MSMC) Call in: 65-CIP  
Participant: 65-CIP

---

**From:** [Lor, Socheata](#)  
**To:** [Wendy Loya](#)  
**Subject:** Fwd: Role of the FWS in the Oil and Gas Program at ANWR  
**Date:** Monday, January 29, 2018 7:29:45 PM

---

Hi,

This is the compatibility email I mentioned. We should get tog. with Stephanie and crew tomorrow to discuss.

Soch

~~~~~  
*Socheata Lor, Ph.D.  
Acting Assistant Regional Director - Region 7  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
Office: 907.786.3420  
Cell: 907.891.6194*  
~~~~~

----- Forwarded message -----

**From:** **Siekaniec, Greg** <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
**Date:** Fri, Jan 26, 2018 at 2:56 PM  
**Subject:** Fwd: Role of the FWS in the Oil and Gas Program at ANWR  
**To:** Karen Clark <[karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)>, "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>

Soch,

Your popularity grows by leaps and bounds...

We should gather and discuss what we are thinking based on Larry providing us this feedback. b5-DP/AC

[REDACTED]

Perhaps I should schedule a call with Larry and us once we have an idea of how we wish to proceed so we can discuss if it fits with his sense of where this is headed and if he foresees any pitfalls along the way.

b5-DP/AC

[REDACTED]

greg

0000006907

----- Forwarded message -----

From: **Mellinger, Larry** <[larry.mellinger@sol.doi.gov](mailto:larry.mellinger@sol.doi.gov)>

Date: Fri, Jan 26, 2018 at 1:53 PM

Subject: Role of the FWS in the Oil and Gas Program at ANWR

To: Greg Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>

Cc: Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>, "Martinez, Cynthia" <[cynthia\\_martinez@fws.gov](mailto:cynthia_martinez@fws.gov)>,

"Goeken, Richard" <[richard.goeken@sol.doi.gov](mailto:richard.goeken@sol.doi.gov)>, "Romanik, Peg"

<[peg.romanik@sol.doi.gov](mailto:peg.romanik@sol.doi.gov)>, Benjamin Jesup <[benjamin.jesup@sol.doi.gov](mailto:benjamin.jesup@sol.doi.gov)>

Greg:

As you are aware,

b5-AC



b5-AC



b5-AC



b5-AC



b5-AC

b5-AC

Any guidance you could give me would be helpful, and I would be glad to discuss this further with you at your convenience.

Thanks.

Larry

--

Lawrence P. Mellinger  
Attorney-Advisor  
Division of Parks and Wildlife  
Office of the Solicitor  
U.S. Department of the Interior  
410-252-5442  
202-208-3062

**From:** [Martin, John](#)  
**To:** [Decleva, Edward](#)  
**Cc:** [Diane Granfors](#); [John Trawicki](#); [Stephanie Brady](#); [Debbie Steen](#); [Douglas Campbell](#); [John Brewer](#); [Steve Berendzen](#); [Joanna Fox](#); [Stephen Arthur](#); [Doug Damberg](#); [Drew Crane](#); [Lor, Socheata](#); [Tracy Fischbach](#); [Mary Colligan](#); [Sarena Selbo](#); [Gene Peltola](#); [Tom Doolittle](#); [Wendy Loya](#); [Mark Miller](#)  
**Subject:** Re: Coastal Plain 1002 Area Information Needs for Resource Management and Oil and Gas Program Decision-making  
**Date:** Monday, January 29, 2018 8:04:58 AM  
**Attachments:** [Table - Discipline Subjects & Interagency Teams 29Jan2018amUPDATED.docx](#)

---

Ed

Done. In the interim before identifying team lead, have put you down as POC.

New table attached.

Thanks

John

On Fri, Jan 26, 2018 at 7:04 AM, Decleva, Edward <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)> wrote:

I stand corrected. Please add Paleontological Resources to the list of matters that will need to be addressed, listing me as USFWS representative. BLM will likely be the lead, however, as it has expertise within its agency. Again, roles for paleontological resources and needs will need to be identified.

Thank you, Ed

Edward J. DeCleva  
Regional Historic Preservation Officer  
U.S. Fish and Wildlife Service, Alaska Region  
[1011 E Tudor Rd](#), MS-235  
Anchorage, AK 99503

[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)  
907-786-3399

On Thu, Jan 25, 2018 at 7:17 AM, Decleva, Edward <[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)> wrote:  
John,

I have looked over the attachments and do not have anything to add. I see that you have captured the essence of my primary comment from yesterday's meeting, that federal parties should quickly determine and define federal agency lead, co-lead, and cooperative roles for NEPA and other specific resource compliance responsibilities (such as Section 106 of the National Historic Preservation Act).

Thank you, Ed

Edward J. DeCleva  
Regional Historic Preservation Officer

U.S. Fish and Wildlife Service, Alaska Region  
1011 E Tudor Rd, MS-235  
Anchorage, AK 99503

[edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)  
907-786-3399

On Thu, Jan 25, 2018 at 6:59 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

This request was distributed on 9 Jan 2018 to Refuges - DRAFT *Alaska Region Information Needs to Move Forward regarding Arctic Refuge Oil and Gas Program: Exploration and Leasing* (attached – dated 25 Jan 2018).

We are now asking for input from all Alaska Region Service activity programs – OSM, MBM, FES and Science Applications.

Since the initial distribution, we have identified interagency, interdisciplinary teams with interim team leads for a DOI resource assessment needs due mid-Feb (attached table).

The BLM Leasing Workshop last Fri 19 Jan provided an overview of the oil and gas industry – exploration, development, production and transportation, along with tenets of leasing management, at least as applicable to the National Petroleum Reserve – Alaska (NPPRA) including NEPA and other relevant statutory and regulatory requirements. This workshop also served as a catalyst for further discussions regarding the roles and responsibilities of all the agencies involved - BLM, USGS and Service.

Due to the evolving nature of the coastal plain 1002 area communications, the initial request was at an overview level. We now need refinements scaled down for field level considerations and decision-making.

Please review and provide any comments or additional considerations by **COB 15 Feb 2018** for consolidation and review by the Regional Director.

Thanks

John

On Tue, Jan 9, 2018 at 1:11 PM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

All

Please find attached a draft list of questions and/or information needs for consideration as we evaluate oil and gas exploration and development within Arctic National Wildlife Refuge. In the near future, we will be reaching out to other directorates (FES, MBM, OSM) for input, as these same needs may reflect their own.

Should you have comments or additions that would help in planning or



management decisions now and into the future, please edit or add these to the list. As this is a fast-paced effort, please provide responses to me by COB Thu 18 Jan 2018. The final synthesized list will be provided to the Regional Director as he engages with peer agencies, HQ and DOI.

If I may provide additional information or if you have any questions, please so advise.

Thanks

John

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** FW: Resource Assessment Coordination  
**Date:** Tuesday, January 30, 2018 10:26:56 AM  
**Attachments:** [Outline for 1002 status reports.docx](#)  
[1002 Public Health by Sara Longan NSSI.docx](#)  
[Table - Discipline Subjects & Interagency Teams 29Jan2018amUPDATED.docx](#)

---

**From:** Martin, John [mailto:[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)]  
**Sent:** Tuesday, January 30, 2018 6:48 AM  
**To:** Wendy Loya  
**Cc:** Stephanie Brady  
**Subject:** Resource Assessment Coordination

Wendy

For your consideration; attached are the first discipline report received on public health and a suggested format for species status.

The species format has its origin in the strategic habitat conservation exercise that was conducted by the Alaska Region 2013-2015 - conservation frameworks and priority species, of which the Beaufort coastal plain was a pilot project. Am hesitant to route the species format to the interdisciplinary teams. While biological resources are highly visible and of keen interest to agency managers and public, beyond the polar bear and caribou all the critical issues appear to be physical resources or social, so not sure this approach works across a spectrum of interdisciplinary subjects.

Also considered routing the public health summary as an example report but fear this may not be a good subject for the larger teams to base reports upon.

FYI and discussion.

Am seeking a vision of what the final resource assessment looks like - abstract style narrative or bullets; depth and breadth; one-page summary for minor subjects, maybe three for controversial or known potential issues; same for needs; and so on. Also, will BLM engage with teams as constituted or move out with teams as they are? It is understood that a more in depth review will be developed that may be used as a foundational reference as the leasing management plan (IAP) moves forward.

Many anxious emails received so far and have put off answering until I have something more concrete to provide, and for the larger group of interdisciplinary teams.

Also, included latest update on interdisciplinary teams table.

Thanks

John

**From:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**To:** [Stephanie Brady](#); [Tracy Fischbach](#); [John Martin](#); [Socheata Lor](#)  
**Subject:** Planning team briefing on activities for Wendy

---

Stephanie and I talked about the planning team sharing info on their work with regards to the 1002 area. We can meet in the Science Applications Conference room on the first floor, and Soch will come down at or after 1130 to talk about the response regarding the compatibility email from Greg. See you soon.

Wendy

**From:** [Crane, Drew](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Polar bear example?  
**Date:** Tuesday, January 30, 2018 12:24:54 PM  
**Attachments:** [Coastal Plain 1002 Area State of Knowledge - Polar Bears v3.0.docx](#)

---

Hey Wendy,

I have the polar bear example, but I'm waiting on a thumbs up from either Patrick or Mary to share with the larger group. I will hopefully get a response by the end of the day. In the meantime, I've attached it below for your use, but please don't share at this time.

Thanks

Drew Crane  
Deputy Chief of Refuges, Acting  
Alaska Region  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
907-786-3323

On Tue, Jan 30, 2018 at 9:32 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Drew,

Is it possible to get the narrative developed by the PB team as a potential example for the other teams? John Martin, Paul Leonard and I are working on providing further guidance and looking for ideas.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Martin, John](#)  
**To:** [Stephanie Brady](#); [Wendy Loya](#)  
**Subject:** Fwd: Archive Documents for Leasing Management, Issues, MOU, Agency Roles for Coastal Plain 1002 Area circa 1990s  
**Date:** Tuesday, January 30, 2018 12:57:32 PM

---

FYI - updates regarding BLM discipline teams and POCs.

----- Forwarded message -----

**From:** **Hayes, Miriam (Nicole)** <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>  
**Date:** Tue, Jan 30, 2018 at 9:02 AM  
**Subject:** Re: Archive Documents for Leasing Management, Issues, MOU, Agency Roles for Coastal Plain 1002 Area circa 1990s  
**To:** "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

Hi John,

Yes - we have POCs identified and will make sure it is distributed at the meeting if not before - I am verifying the roles of those individuals that were provided.

Nicole

**Nicole Hayes**

Project Coordinator

Bureau of Land Management

[222 W. 7th Avenue #13](#)

[Anchorage, Alaska 99513](#)

Desk: (907) 271-4354

On Tue, Jan 30, 2018 at 8:41 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Nicole

Is there a list of BLM interdisciplinary team members and/or POCs (leads)? Or will this be address during our scheduled meeting.

Thanks

John

On Wed, Jan 24, 2018 at 12:24 PM, Hayes, Miriam (Nicole) <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)> wrote:

Also - I have asked the BLM program leads to have POCs for the specific resources and to complete that template by COB on Friday. I hope to have it all compiled and back to you on Monday.

Nicole

**Nicole Hayes**

Project Coordinator

Bureau of Land Management

[222 W. 7th Avenue #13](#)

[Anchorage, Alaska 99513](#)

Desk: (907) 271-4354

On Wed, Jan 24, 2018 at 12:04 PM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:  
Thanks

On Wed, Jan 24, 2018 at 12:02 PM, Hayes, Miriam (Nicole) <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)> wrote:

Thank you, John. Much appreciated. I'm hoping now that I'm officially assigned to the project I can better facilitate communication across all channels as appropriate. I am hoping the meeting next week to discuss planning with Tracy Fischbach and potentially others will help streamline some of this too.

Nicole

**Nicole Hayes**

Project Coordinator

Bureau of Land Management

[222 W. 7th Avenue #13](#)

[Anchorage, Alaska 99513](#)

Desk: (907) 271-4354

On Wed, Jan 24, 2018 at 10:42 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:  
Done.

FYI - my routing list is provided as a courtesy. Keep in mind within the hour it might be out of date.

Am having a bit of trouble keeping up with email traffic and gleaned addresses to add (or not). Communications with BLM have been ... less than we anticipated following our 9 Jan meeting. Hopefully, based on the turnout and dialogue generated last Fri this will change.

Thanks

On Wed, Jan 24, 2018 at 10:36 AM, Miriam (Nicole) Hayes <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)> wrote:

Hi John,

Would you please include me on messages regarding the Arctic Refuge and the 1002 area? I am the primary POC for BLM.

Thank you so much!

Nicole

Sent from my iPad

> On Jan 24, 2018, at 10:02 AM, Murphy, Ted <[t75murph@blm.gov](mailto:t75murph@blm.gov)> wrote:

>

> ----- Forwarded message -----

> From: Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>

> Date: Wed, Jan 24, 2018 at 9:39 AM

> Subject: Archive Documents for Leasing Management, Issues, MOU, Agency

> Roles for Coastal Plain 1002 Area circa 1990s

> To: Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, Drew Crane  
 <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>,  
 > Ted Murphy <[t75murph@blm.gov](mailto:t75murph@blm.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>,  
 "Nichelle  
 > (Shelly)" <[njones@blm.gov](mailto:njones@blm.gov)>, Wayne Svejnoha <[wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)>, Robert  
 > Brumbaugh <[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)>, Tracy Fischbach  
 <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>,  
 > Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox  
 <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>,  
 > Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>, John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>,  
 Wendy  
 > Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>  
 > Cc: Mitch Ellis <[mitch\\_ellis@fws.gov](mailto:mitch_ellis@fws.gov)>, "Lor, Socheata"  
 <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>,  
 > Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Mary Colligan <  
 > [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>  
 >  
 >  
 > All  
 >  
 > With the submission of the \*Arctic National Wildlife Refuge, Alaska,  
 > coastal plain resources assessment: report and recommendation to the  
 > Congress of the United States and final legislative environmental impact  
 > statement\* (Clough et al. 1987) there was a flurry of activity in the  
 > Alaska Region regarding leasing management plans prepared in successional  
 > iterations from 1988 and gradually ending about 1992 as interest waned and  
 > Administration changed. All of this effort was collaborative particularly  
 > between the Service and BLM as the active agents and the USGS in a  
 > consulting role.  
 >  
 > A cursory review shows some of these issues may be relevant, if only for  
 > informational purposes, to ongoing efforts and may reduce any attempt to  
 > reinvent the wheel. There are obvious changes between then and now, most  
 > notable air quality, climate change, polar bear listing, subsistence  
 > resources and cumulative impacts.  
 >  
 > Of interest may be the identification of agency roles and development of an  
 > MOU between the Service and BLM.  
 >  
 > Circulated for your information and consideration. These documents come  
 > from the administrative files we have for Arctic Refuge. We were attempting  
 > to have these scanned by ARLIS but this effort is now on hold.  
 >  
 > Please share as warranted.  
 >  
 > John  
 >  
 > Literature Cited  
 >  
 > Clough, N.K., P.C. Patton, and A.C. Christiansen. 1987. Arctic National

> Wildlife Refuge, Alaska, coastal plain resources assessment: report and  
> recommendation to the Congress of the United States and final legislative  
> environmental impact statement (2 Volumes). Washington, D.C.: U.S.  
> Department of the Interior, Geological Survey and Bureau of Land  
Management.  
>  
>  
>  
> --  
> Ted A Murphy  
> Alaska-Associate State Director  
> 907-271-5076  
> <1 Proposed O&G Leasing Management Program USFWS13Apr1990  
INTRO.pdf>  
> <2 Proposed O&G Leasing Management Program USFWS13Apr1990  
ISSUES.pdf>  
> <3 Proposed O&G Leasing Management Program USFWS13Apr1990 MOU  
FWS-BLM.pdf>  
> <4 Proposed O&G Leasing Management Program USFWS13Apr1990  
APPENDIX.pdf>  
> <1002 Area Leasing Questions 12Feb1991.pdf>  
> <Exec Brief 1002 Area 1990 Field Season Report.pdf>  
> <Exec Brief Coastal Plain O&G Leasing Issue Apr1991.pdf>



**From:** [Leonard, Paul](#)  
**To:** [richard.thoman@noaa.gov](mailto:richard.thoman@noaa.gov)  
**Cc:** [Wendy Loya](#)  
**Subject:** 1002 Climate & Snow Conversation  
**Date:** Tuesday, January 30, 2018 4:55:11 PM

---

Hi Richard,

I am the science coordinator for the [Arctic Landscape Conservation Cooperative](#) (LCC) and am leading a FWS effort to describe the state of knowledge regarding climate and snow information in the 1002 area of the Arctic National Wildlife Refuge. This effort is being applied within the context of oil & gas exploration and we are attempting to identify pertinent data and knowledge gaps as well as opportunities to fill those gaps.

The LCC has worked with Amy Holman in the past and she suggested you might be a good person to speak with regarding some of these issues. I'm especially interested in discussing climate trends and related data issues/and or gaps in this geographic area with you. Would it be possible to have a conversation this week? I just tried calling but did not leave a message.

If there is any time in the next couple of days you could give me a call that would be great. My number is 907.456.0445

If not, is there a better time for you? Also, If you have any questions about this effort, I'd be happy to discuss them.

Thanks for your consideration.

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

**From:** [Lor, Socheata](#)  
**To:** [Brady, Stephanie](#); [John Martin](#); [Crane, Drew](#); [Wendy Loya](#); [Doug Damberg](#); [Berendzen, Steve](#)  
**Subject:** Fwd: Bibliography  
**Date:** Tuesday, January 30, 2018 4:59:20 PM  
**Attachments:** [mime-attachment.html](#)  
[Untitled attachment 08336.htm](#)  
[InfoMemo-Bibliography of USGS Research Conducted in the ANWR 1002 Area and or the NPRA.20180119.pdf](#)  
[Untitled attachment 08339.htm](#)

---

Hi,

The USGS OFR includes work of Service staff, but does it include everything done by Service staff?

Soch

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

----- Forwarded message -----

**From:** **Greg Siekaniec** <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
**Date:** Tue, Jan 30, 2018 at 2:19 PM  
**Subject:** Fwd: Bibliography  
**To:** [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov), [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)  
**Cc:** [karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)

Mary/Soch,

Do you know if this USGS information also represents the FWS science per Arctic NWR as well? If not, we need to figure out how we can complete a bibliography of science that is representative of our work as well.

Thanks,

Greg

Sent from my iPhone

Begin forwarded message:

**From:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Date:** January 30, 2018 at 1:16:15 PM AKST  
**To:** Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
**Subject:** Fwd: Bibliography

Greg,

See below. Can you have someone pull this together. I know we had an extensive bibliography on the Arctic website but I don't think it has been kept up to date.

jim

Sent from my iPhone

Begin forwarded message:

**From:** "Dove, William" <[william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov)>  
**Date:** January 30, 2018 at 5:08:59 PM EST  
**To:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Cc:** Greg Sheehan <[Greg\\_J\\_Sheehan@fws.gov](mailto:Greg_J_Sheehan@fws.gov)>  
**Subject:** Bibliography

Jim,

I am trying to put together a bibliography on any science that we have produced on the NPR-A and the 1002 area.

We were hoping to get this information from FWS, Greg said that you might be able to help with this. I have attached the document that USGS for reference. Should you have any questions please let me know.

Best,

Billy

**Billy Dove** | *Special Assistant*  
Office of the Assistant Secretary  
Land and Minerals Management  
U.S. Department of the Interior

**From:** [Sweet, Serena](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Miriam \(Nicole\) Hayes](#); [Marlo Draper](#)  
**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads  
**Date:** Tuesday, January 30, 2018 6:09:33 PM  
**Attachments:** [Coastal Plain 1002 ID Team FWS.xlsx](#)

---

Hi Wendy,

As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my leadership has asked that we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have a expert for, feel free to leave it blank.

Thank you and please let me know if you have any questions.

Serena Sweet

BLM-Alaska, Resources Division  
Supervisory Planning & Environmental Coordinator  
Desk: 907-271-4543  
Cell: 907-223-3267

**From:** [Martin, John](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Stephanie Brady](#)  
**Subject:** Resource Assessment Coordination  
**Date:** Tuesday, January 30, 2018 8:47:57 AM  
**Attachments:** [Outline for 1002 status reports.docx](#)  
[1002 Public Health by Sara Longan NSSI.docx](#)  
[Table - Discipline Subjects & Interagency Teams 29Jan2018amUPDATED.docx](#)

---

Wendy

For your consideration; attached are the first discipline report received on public health and a suggested format for species status.

The species format has its origin in the strategic habitat conservation exercise that was conducted by the Alaska Region 2013-2015 - conservation frameworks and priority species, of which the Beaufort coastal plain was a pilot project. Am hesitant to route the species format to the interdisciplinary teams. While biological resources are highly visible and of keen interest to agency managers and public, beyond the polar bear and caribou all the critical issues appear to be physical resources or social, so not sure this approach works across a spectrum of interdisciplinary subjects.

Also considered routing the public health summary as an example report but fear this may not be a good subject for the larger teams to base reports upon.

FYI and discussion.

Am seeking a vision of what the final resource assessment looks like - abstract style narrative or bullets; depth and breadth; one-page summary for minor subjects, maybe three for controversial or known potential issues; same for needs; and so on. Also, will BLM engage with teams as constituted or move out with teams as they are? It is understood that a more in depth review will be developed that may be used as a foundational reference as the leasing management plan (IAP) moves forward.

Many anxious emails received so far and have put off answering until I have something more concrete to provide, and for the larger group of interdisciplinary teams.

Also, included latest update on interdisciplinary teams table.

Thanks

John

**From:** [Wendy Loya](#)  
**To:** [Socheata Lor](#); [Steve Berendzen](#); [Joanna Fox](#); [Drew Crane](#); [John Trawicki](#); [Eric Taylor](#); [Stephanie Brady](#); [Sara Boario](#)  
**Subject:** Deadline 3pm today! Coastal Plain 1002 Leasing Plan - FWS Resource Leads  
**Date:** Wednesday, January 31, 2018 10:17:19 AM  
**Attachments:** [BLM requested Coastal Plain 1002 ID Team FWS 013118.xlsx](#)  
**Importance:** High

---

Good morning,

**A request with a deadline for 3pm Today, Wednesday January 31<sup>st</sup>**

BLM Lead for Coastal Plain 1002 Leasing Plan lead Sarena Sweet has asked for initial list of leads for the topics they envision for the Exploration and Leasing EIS that they propose will be completed in about the next year, possibly 1.5 years to get to a lease sale in 2 years. That timeline is important as we think who will be able to help with identifying content and leading or assisting in writing sections for the EIS.

Can you please add staff to the attached table that you can commit in the coming year to help with the EIS development? I think this may be similar to our team leaders for the Resource Assessment teams that have been established, but didn't want to make that assumption. After you add names in Column C, please return to me and I will compile. If we get more than one name, I'll coordinate with division Point of Contacts to finalize who will lead and who will support. We can leave blanks if needed, and yes...the list will evolve over time in both content and contacts.

We'll be organizing a call for the Resource Assessment Team Leaders for Thursday afternoon to provide further clarification and answer questions.

Call with any questions 907.786.3532

Thank you!  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Sweet, Serena [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]  
**Sent:** Tuesday, January 30, 2018 4:09 PM  
**To:** Wendy Loya  
**Cc:** Miriam (Nicole) Hayes; Marlo Draper  
**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Hi Wendy,  
As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my

leadership has asked that we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have an expert for, feel free to leave it blank.

Thank you and please let me know if you have any questions.

**Serena Sweet**

BLM-Alaska, Resources Division

Supervisory Planning  
&  
Environmental Coordinator  
Desk: 907-271-4543  
Cell: 907-223-3267

**From:** [Martin, John](#)  
**To:** [Wendy Loya](#)  
**Subject:** Fwd: Invitation: Arctic 1002 Interdisciplinary Team @ Thu Feb 8, 2018 1pm - 2pm (AKST) (john\_w\_martin@fws.gov)  
**Date:** Wednesday, January 31, 2018 10:20:30 AM  
**Attachments:** [invite.ics](#)

---

Wendy

Have a Refuge Conf room reserved for 1300-1400 Thu but have not sent out any invitations or materials per your instructions yesterday.

Am located in the extreme northeast corner of second floor - there is no room number as I surrendered by office due to office refurbishing.

John

----- Forwarded message -----

From: **Megan Collins** <[megan\\_collins@fws.gov](mailto:megan_collins@fws.gov)>  
Date: Tue, Jan 30, 2018 at 1:04 PM  
Subject: Invitation: Arctic 1002 Interdisciplinary Team @ Thu Feb 8, 2018 1pm - 2pm (AKST) ([john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov))  
To: [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)

### Arctic 1002 Interdisciplinary Team

[more details »](#)

When Thu Feb 8, 2018 1pm – 2pm Alaska Time

Where FWS-FW7 NWRs Conference Room/Regional Office ([map](#))

Video call 

Calendar [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)

Who

- [megan\\_collins@fws.gov](mailto:megan_collins@fws.gov) - organizer
- [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)

Going? [Yes](#) - [Maybe](#) - [No](#) [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov) because you are subscribed for invitations on calendar [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More](#).



**From:** [Lor, Socheata](#)  
**To:** [Mary Colligan](#)  
**Cc:** [Greg Siekaniec](#); [Karen Clark](#); [Wendy Loya](#)  
**Subject:** Re: Bibliography  
**Date:** Wednesday, January 31, 2018 10:55:14 AM

---

Greg,  
Ignore my previous message. I just got a correction from another staff that the USGS biblio. does NOT contain exhaustive work of the Service, so we'll have to pull together our own bibliography. I'll work with Wendy to get this done.

Sorry about that.

**Soch**

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

On Wed, Jan 31, 2018 at 8:20 AM, Lor, Socheata <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)> wrote:  
Our folks confirmed that the final USGS biblio. contains exhaustive work from Service staff.

**Soch**

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

On Tue, Jan 30, 2018 at 4:54 PM, Mary Colligan <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)> wrote:  
Greg-It is based on all available information not specific to any one agency.

Sent from my iPhone

On Jan 30, 2018, at 2:19 PM, Greg Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)> wrote:

Mary/Soch,

Do you know if this USGS information also represents the FWS science per Arctic NWR as well? If not, we need to figure out how we can complete a bibliography of science that is representative of our work as well.

Thanks,

Greg

Sent from my iPhone

Begin forwarded message:

**From:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Date:** January 30, 2018 at 1:16:15 PM AKST  
**To:** Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
**Subject:** Fwd: Bibliography

Greg,

See below. Can you have someone pull this together. I know we had an extensive bibliography on the Arctic website but I don't think it has been kept up to date.

jim

Sent from my iPhone

Begin forwarded message:

**From:** "Dove, William"  
<[william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov)>  
**Date:** January 30, 2018 at 5:08:59 PM EST  
**To:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Cc:** Greg Sheehan <[Greg\\_J\\_Sheehan@fws.gov](mailto:Greg_J_Sheehan@fws.gov)>  
**Subject:** Bibliography

Jim,

I am trying to put together a bibliography on any science that we have produced on the NPR-A and the 1002 area.

We were hoping to get this information from FWS,

Greg said that you might be able to help with this. I have attached the document that USGS for reference. Should you have any questions please let me know.

Best,

Billy

**Billy Dove** | *Special Assistant*  
Office of the Assistant Secretary  
Land and Minerals Management  
U.S. Department of the Interior

<mime-attachment.html>

<InfoMemo-Bibliography of USGS Research Conducted in the ANWR 1002 Area and\_or the NPRA.20180119.pdf>

<mime-attachment.html>

**From:** [Fox, Joanna](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Steve Berendzen](#)  
**Subject:** Re: Deadline 3pm today! Coastal Plain 1002 Leasing Plan - FWS Resource Leads  
**Date:** Wednesday, January 31, 2018 12:15:37 PM  
**Attachments:** [BLM requested Coastal Plain 1002 ID Team FWS 013118 ANWR Input.xlsx](#)

---

Hi Wendy,

Attached please find our input for lead roles. Don't hesitate to contact us if you have any questions.

Thank you!  
Joanna

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
101 12th Avenue, Room 236  
Fairbanks, AK 99701  
(907) 456-0549

Follow us on Facebook!  
[www.facebook.com/arcticnationalwildliferefuge](http://www.facebook.com/arcticnationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*

On Wed, Jan 31, 2018 at 8:17 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Good morning,

**A request with a deadline for 3pm Today, Wednesday January 31<sup>st</sup>**

BLM Lead for Coastal Plain 1002 Leasing Plan lead Sarena Sweet has asked for initial list of leads for the topics they envision for the Exploration and Leasing EIS that they propose will be completed in about the next year, possibly 1.5 years to get to a lease sale in 2 years. That timeline is important as we think who will be able to help with identifying content and leading or assisting in writing sections for the EIS.

Can you please add staff to the attached table that you can commit in the coming year to help with the EIS development? I think this may be similar to our team leaders for the Resource Assessment teams that have been established, but didn't want to make that assumption. After you add names in Column C, please return to me and I will compile. If we get more than one

name, I'll coordinate with division Point of Contacts to finalize who will lead and who will support. We can leave blanks if needed, and yes...the list will evolve over time in both content and contacts.

We'll be organizing a call for the Resource Assessment Team Leaders for Thursday afternoon to provide further clarification and answer questions.

Call with any questions 907.786.3532

Thank you!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Sweet, Serena [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]

**Sent:** Tuesday, January 30, 2018 4:09 PM

**To:** Wendy Loya

**Cc:** Miriam (Nicole) Hayes; Marlo Draper

**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Hi Wendy,

As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my leadership has asked that we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this

list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have a expert for, feel free to leave it blank.

Thank you and please let me know if you have any questions.

**Serena Sweet**

BLM-Alaska, Resources Division

Supervisory Planning

&

Environmental Coordinator

Desk: 907-271-4543

Cell: 907-223-3267

**From:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**To:** [Paul Leonard](#); [John Martin](#)  
**Subject:** Finalize agenda for Thursday Resource Assessment Team Lead Mtg

---

Changing the time as this overlapped with the Refuges internal 1002 meeting. This is just Wendy, Paul and John making sure we are prepared for tomorrow at 1pm with all Team leads.

Compile information for tomorrow's meeting with Team Leaders to share common format, reinforce purpose, provide overall updates.

**From:** [Taylor, Eric](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Socheata Lor](#); [Steve Berendzen](#); [Joanna Fox](#); [Drew Crane](#); [John Trawicki](#); [Stephanie Brady](#); [Sara Boario](#)  
**Subject:** Re: Deadline 3pm today! Coastal Plain 1002 Leasing Plan - FWS Resource Leads  
**Date:** Wednesday, January 31, 2018 12:23:36 PM  
**Attachments:** [BLM requested Coastal Plain 1002 ID Team FWS 013118. migratory bird recommendation ejt.xlsx](#)

---

Good Morning Wendy -

Please find attached my recommendations for a FWS Migratory Bird Team Lead and appropriate personnel who could assist in the EIS. As I am recommending personnel from other Programs, it is necessary for others to concur on my suggestions. If I can address any questions, please let me know.

Regards,

Eric

Eric J. Taylor  
Chief, Division of Migratory Bird Management  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road, MS 201  
Anchorage, Alaska 99503-6199  
907.786.3446 (office)  
907.903.7210 (cell)  
[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)

On Wed, Jan 31, 2018 at 8:17 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Good morning,

**A request with a deadline for 3pm Today, Wednesday January 31<sup>st</sup>**

BLM Lead for Coastal Plain 1002 Leasing Plan lead Sarena Sweet has asked for initial list of leads for the topics they envision for the Exploration and Leasing EIS that they propose will be completed in about the next year, possibly 1.5 years to get to a lease sale in 2 years. That timeline is important as we think who will be able to help with identifying content and leading or assisting in writing sections for the EIS.

Can you please add staff to the attached table that you can commit in the coming year to help with the EIS development? I think this may be similar to our team leaders for the Resource Assessment teams that have been established, but didn't want to make that assumption. After you add names in Column C, please return to me and I will compile. If we get more than one name, I'll coordinate with division Point of Contacts to finalize who will lead and who will support. We can leave blanks if needed, and yes...the list will evolve over time in both content and contacts.



We'll be organizing a call for the Resource Assessment Team Leaders for Thursday afternoon to provide further clarification and answer questions.

Call with any questions 907.786.3532

Thank you!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Sweet, Serena [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]  
**Sent:** Tuesday, January 30, 2018 4:09 PM  
**To:** Wendy Loya  
**Cc:** Miriam (Nicole) Hayes; Marlo Draper  
**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Hi Wendy,

As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my leadership has asked that we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have a expert for, feel free to leave it

blank.

Thank you and please let me know if you have any questions.

**Serena Sweet**

BLM-Alaska, Resources Division

Supervisory Planning

&

Environmental Coordinator

Desk: 907-271-4543

Cell: 907-223-3267

**From:** [Leonard, Paul](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: draft  
**Date:** Wednesday, January 31, 2018 12:39:20 PM  
**Attachments:** [GENERAL REPORTING TEMPLATE.docx](#)

---

On Wed, Jan 31, 2018 at 10:33 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Everyone,

Paul Leonard, Arctic LCC Science Coordinator, and I (Arctic LCC Coordinator and FWS Regional Point of Contact for 1002 Project) will be working with John Martin to move ahead with compiling the Resource Assessments that are due Feb 16th.

We would like to schedule a meeting for tomorrow (Thursday 2/1) afternoon at 12:30-1:30pm to provide further clarity on why we are doing these assessments and what information we are looking for, the process we hope will take place and get your feedback on barriers and needs for you to get these done. If you are unable to make this meeting, we will make a plan for another time or meet with you one on one.

location info

Instant Meeting Audio # 8 **b5-CIP**

Instant Meeting Audio Participant Passcode: **b5-CIP**

**The purpose of these Resource Assessments is to identify critical information needs in order to proceed with responsible exploration, leasing and development of the 1002 area of the Coastal Plain.** The goal here is not to compile all of the information needed in an EIS (that request is forthcoming), but concise descriptions of the information we have and need to permit geophysical exploration as soon as next winter, to develop a leasing plan within the next year and finally, envisioning the long term studies the FWS believes need to be done to understand development effects.

Many here probably have not had to work on oil and gas issues, so we will be sharing a list of BLM contacts later today that you can work with to understand what decisions they have had to make and what information helps make those decisions. We encourage you to be as collaborative as possible in filling out the information with partners at other DOI agencies and relevant experts living in and near the Refuge, at the State and other science organizations.

I am attaching the draft narrative that the Polar Bear team identified in December for the information that they believe is needed, and which fits in the initial template that John Martin provided. Adding references for the studies complete would be an excellent addition. The closer we can get to the same format, the better. After using this information to identify immediate research needs, we will continue to work with you all and other experts to develop a robust science plan.

Thank you. I hope you can join the meeting tomorrow and feel free to contact me if you are unable to make it.

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

Paul Leonard, PhD

Science Coordinator

[Arctic LCC](#)

101 12th Ave. Room 216

Fairbanks, AK 99701

(907) 456-0445

**From:** [Joanna Fox](#)  
**To:** [Taylor, Eric](#)  
**Cc:** [Wendy Loya](#); [Socheata Lor](#); [Steve Berendzen](#); [Drew Crane](#); [John Trawicki](#); [Stephanie Brady](#); [Sara Boario](#)  
**Subject:** Re: Deadline 3pm today! Coastal Plain 1002 Leasing Plan - FWS Resource Leads  
**Date:** Wednesday, January 31, 2018 1:22:23 PM

---

Thanks Eric. We agree that Chris Latty would be a good candidate for a lead role on this team, and also concur that Roy Churchwell has expertise to contribute.

Sent from my iPad

On Jan 31, 2018, at 10:23 AM, Taylor, Eric <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)> wrote:

Good Morning Wendy -

Please find attached my recommendations for a FWS Migratory Bird Team Lead and appropriate personnel who could assist in the EIS. As I am recommending personnel from other Programs, it is necessary for others to concur on my suggestions. If I can address any questions, please let me know.

Regards,

Eric

Eric J. Taylor  
Chief, Division of Migratory Bird Management  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road, MS 201  
Anchorage, Alaska 99503-6199  
907.786.3446 (office)  
907.903.7210 (cell)  
[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)

On Wed, Jan 31, 2018 at 8:17 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Good morning,

**A request with a deadline for 3pm Today, Wednesday January 31<sup>st</sup>**

BLM Lead for Coastal Plain 1002 Leasing Plan lead Sarena Sweet has asked for initial list of leads for the topics they envision for the Exploration and Leasing EIS that they propose will be completed in about the next year, possibly 1.5 years to get to a lease sale in 2 years. That timeline is important as we think who will be able to help with identifying content and leading or assisting in writing sections for the EIS.

Can you please add staff to the attached table that you can commit in the coming year to help with the EIS development? I think this may be similar to our team leaders for the Resource Assessment teams that have been established, but didn't want to make that assumption. After you add names in Column C, please return to me and I will compile. If we get more than one name, I'll coordinate with division Point of Contacts to finalize who will lead and who will support. We can leave blanks if needed, and yes...the list will evolve over time in both content and contacts.

We'll be organizing a call for the Resource Assessment Team Leaders for Thursday afternoon to provide further clarification and answer questions.

Call with any questions 907.786.3532

Thank you!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Sweet, Serena [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]

**Sent:** Tuesday, January 30, 2018 4:09 PM

**To:** Wendy Loya

**Cc:** Miriam (Nicole) Hayes; Marlo Draper

**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Hi Wendy,

As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my leadership has asked that

we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have a expert for, feel free to leave it blank.

Thank you and please let me know if you have any questions.

Serena Sweet

BLM-Alaska, Resources Division

Supervisory Planning

&

Environmental Coordinator

Desk: 907-271-4543

Cell: 907-223-3267

<BLM requested Coastal Plain 1002 ID Team\_FWS\_013118.\_migratory bird recommendation\_ejt.xlsx>

**From:** [Martin, John](#)  
**To:** [Wendy Loya](#)  
**Subject:** Coastal Plain 1002 Area Finalize Res Assessment Report Outline  
**Date:** Wednesday, January 31, 2018 2:14:24 PM  
**Attachments:** [REPORTING TEMPLATE updated 31Jan2018pm.docx](#)

---

Wendy

Per your request yesterday and for consideration - possible reporting outline for discipline subjects.

John



**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** Fwd: Coastal Plain 1002 Area Finalize Res Assessment Report Outline  
**Date:** Wednesday, January 31, 2018 2:32:09 PM  
**Attachments:** [REPORTING TEMPLATE updated 31Jan2018pm.docx](#)  
[Untitled attachment 08264.htm](#)

---

Haven't looked at

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

Begin forwarded message:

**From:** "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
**Date:** January 31, 2018 at 12:14:20 AKST  
**To:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Subject:** Coastal Plain 1002 Area Finalize Res Assessment Report Outline

Wendy

Per your request yesterday and for consideration - possible reporting outline for discipline subjects.

John

**From:** [Fox, Joanna](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Steve Berendzen](#); [John Trawicki](#); [stephanie brady](#)  
**Subject:** Re: Deadline 3pm today! Coastal Plain 1002 Leasing Plan - FWS Resource Leads  
**Date:** Wednesday, January 31, 2018 2:50:37 PM  
**Attachments:** [BLM requested Coastal Plain 1002 ID Team FWS 013118 ANWR Input Version 2.xlsx](#)

---

Wendy,

Here is a better version of the recommendations I sent you earlier (easier to interpret, anyway). We focused mostly on lead roles, but did identify some "subject matter experts" who we believe should be involved in the process. There are likely lots of other individuals who could be included.

Just like Eric Taylor, in several cases we recommend personnel from other programs/offices, so it will be important to get concurrence from others in those cases. In other cases, we're not really sure who the most important lead would be; we just know that we don't have one on our staff. We'll defer to others' recommendations in those cases.

Hope this helps!

Joanna

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
101 12th Avenue, Room 236  
Fairbanks, AK 99701  
(907) 456-0549

Follow us on Facebook!  
[www.facebook.com/arcticonationalwildliferefuge](http://www.facebook.com/arcticonationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*

On Wed, Jan 31, 2018 at 11:56 AM, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)> wrote:

Hi Wendy,

I just noted that I didn't populate the proper column in the file I sent you earlier today. Essentially, what is in the column to the right of the "lead" column is what we would recommend for leads. I've been tied up in meetings all morning and Steve is out of the office through Friday morning now, so I'll get a more refined version to you early this afternoon. Steve and I chatted about this before he left this morning and I was typing in our input as we talked, so my apologies if you were confused and wondering why we didn't have any suggestions for leads!

Thanks,  
Joanna

Sent from my iPad

On Jan 31, 2018, at 10:14 AM, Fox, Joanna <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)> wrote:

Hi Wendy,

Attached please find our input for lead roles. Don't hesitate to contact us if you have any questions.

Thank you!  
Joanna

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
101 12th Avenue, Room 236  
Fairbanks, AK 99701  
(907) 456-0549

Follow us on Facebook!  
[www.facebook.com/arcticnationalwildliferefuge](https://www.facebook.com/arcticnationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*

On Wed, Jan 31, 2018 at 8:17 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Good morning,

**A request with a deadline for 3pm Today, Wednesday January 31<sup>st</sup>**

BLM Lead for Coastal Plain 1002 Leasing Plan lead Sarena Sweet has asked for initial list of leads for the topics they envision for the Exploration and Leasing EIS that they propose will be completed in about the next year, possibly 1.5 years to get to a lease sale in 2 years. That timeline is important as we think who will be able to help with identifying content and leading or assisting in writing sections for the EIS.

Can you please add staff to the attached table that you can commit in the coming year to help with the EIS development? I think this may be similar to our team leaders for the Resource Assessment teams that have been established, but didn't

want to make that assumption. After you add names in Column C, please return to me and I will compile. If we get more than one name, I'll coordinate with division Point of Contacts to finalize who will lead and who will support. We can leave blanks if needed, and yes...the list will evolve over time in both content and contacts.

We'll be organizing a call for the Resource Assessment Team Leaders for Thursday afternoon to provide further clarification and answer questions.

Call with any questions 907.786.3532

Thank you!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Sweet, Serena [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]

**Sent:** Tuesday, January 30, 2018 4:09 PM

**To:** Wendy Loya

**Cc:** Miriam (Nicole) Hayes; Marlo Draper

**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Hi Wendy,

As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my leadership has asked that we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have a expert for, feel free to leave it blank.

Thank you and please let me know if you have any questions.

**Serena Sweet**

BLM-Alaska, Resources Division

Supervisory Planning

&

Environmental Coordinator

Desk: 907-271-4543

Cell: 907-223-3267

<BLM requested Coastal Plain 1002 ID Team\_FWS\_013118 ANWR  
Input.xlsx>

**From:** [Wendy Loya](#)  
**To:** [Mark Miller](#)  
**Subject:** RE: Invitation: 1002 Resource Assessment Team Leads Meeting @ Thu Feb 1, 2018 12:30 - 13:30 (AKST) (memiller@blm.gov)  
**Date:** Wednesday, January 31, 2018 2:57:06 PM

---

Sure!

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Miller, Mark [mailto:[memiller@blm.gov](mailto:memiller@blm.gov)]  
**Sent:** Wednesday, January 31, 2018 12:55 PM  
**To:** Wendy Loya  
**Subject:** Re: Invitation: 1002 Resource Assessment Team Leads Meeting @ Thu Feb 1, 2018 12:30 - 13:30 (AKST) ([memiller@blm.gov](mailto:memiller@blm.gov))

Mind if I extend call-in invitation to Jess? Might help him think about how he might contribute.

---

Mark E. Miller, PhD | Deputy Director  
North Slope Science Initiative | <http://www.NorthSlopeScience.org>  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

On Wed, Jan 31, 2018 at 11:00 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

[more details »](#)

### 1002 Resource Assessment Team Leads Meeting

Hi 1002 Resource Team Leads at FWS,

Paul Leonard, Arctic LCC Science Coordinator, and I (Arctic LCC Coordinator and FWS Regional Point of Contact for 1002 Project) will be working with John Martin to move ahead with compiling the Resource Assessments that are due Feb 16th.

We would like to schedule a meeting for tomorrow (Thursday 2/1) afternoon at 12:30-1:30pm to provide further clarity on why we are doing these assessments and what information we are looking for, the process we hope will take place and get your feedback on barriers and needs for you to get these done. If yours is going great, we look forward to hearing that. If you are unable to make this meeting, we will make a plan for another time or meet with you one on one.

**Location info:**

**Science Applications Conference Room in Regional Office**  
**Fairbanks Field Office Room 110**  
or by phone:

Instant Meeting Audio # **65-CIP**

Instant Meeting Audio Participant Passcode: **65-CIP**

**The purpose of these Resource Assessments is to identify critical science information needs in order to proceed with responsible exploration, leasing and development of the 1002 area of the Coastal Plain.** The goal here is not to compile all of the information needed in an EIS (that request if forthcoming), but concise descriptions of the information we have and need to permit geophysical exploration as soon as next winter, to develop a leasing plan within the next year and finally, envisioning the long term studies the FWS believes need to be done to understand development effects. **They key section is the last section: What studies/surveys need to be conducted to fill those information gaps? Please include duration (start and end), lead, and cost estimates.**

Later today we will be providing an example of the quantity and type of information needed in the initial template that John Martin provided. The closer we can get to the same format, the better.

Many here probably have not had to work on oil and gas issues, so we will be sharing a list of BLM contacts later today that you can work with to understand what decisions they have had to make and what information helps make those decisions. We encourage you to be as collaborative as possible in filling out the information with partners at other DOI agencies and relevant experts living in and near the Refuge, at the State and other science organizations. These assessments will undoubtedly evolve as we learn more and hear when and where industry will be active.

Thank you. I hope you can join the meeting tomorrow and feel free to contact me if you are unable to make it.

Sincerely,  
Wendy  
907-227-2942

When Thu Feb 1, 2018 12:30 – 13:30 Alaska Time

Where FWS-FW7 Science Application Conference Room/Regional Office, Fairbanks Room 110 or Webex ([map](#))

Calendar [memiller@blm.gov](mailto:memiller@blm.gov)

Who

- [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov) - organizer
- [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)
- [memiller@blm.gov](mailto:memiller@blm.gov)
- [drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)
- [eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)
- [edward\\_decleva@fws.gov](mailto:edward_decleva@fws.gov)
- [roger\\_kaye@fws.gov](mailto:roger_kaye@fws.gov)
- [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)
- [tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)
- [stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)
- [john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)

- [christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)
- [randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov)
- [janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)
- [angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)
- [jennifer\\_reed@fws.gov](mailto:jennifer_reed@fws.gov)
- [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)
- [hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)
- [steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)

Going? [Yes](#) - [Maybe](#) - [No](#) [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [memiller@blm.gov](mailto:memiller@blm.gov) because you are subscribed for invitations on calendar [memiller@blm.gov](mailto:memiller@blm.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More](#).



**From:** [Wendy Loya](#)  
**To:** [Mark Miller](#)  
**Subject:** RE: NSSI and 1002  
**Date:** Wednesday, January 31, 2018 3:07:13 PM

---

Hey Mark,

I will be at Chena Hot Springs for the CAFF meeting, I agreed to speak on Tuesday before I accepted my new role. But I should be able to join this meeting by phone.

Also, can we invite Josh Bradley and Paul Leonard from Arctic LCC ?

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

-----Original Appointment-----

**From:** Google Calendar [<mailto:calendar-notification@google.com>] **On Behalf Of** Mark Miller

**Sent:** Wednesday, January 31, 2018 12:45 PM

**To:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov); [mnhayes@blm.gov](mailto:mnhayes@blm.gov); [jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)

**Subject:** NSSI and 1002

**When:** Wednesday, February 07, 2018 9:00 AM-10:00 AM (UTC-09:00) Alaska.

**Where:** BLM-AK SO Knik Room

[more details »](#)

## NSSI and 1002

### *When*

Wed Feb 7, 2018 9am – 10am Alaska Time

### *Where*

BLM-AK SO Knik Room ([map](#))

### *Video call*

65-CIP

### *Calendar*

[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)

*Who*

- [mnhayes@blm.gov](mailto:mnhayes@blm.gov)
- organizer
- [jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)
- [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)
- [memiller@blm.gov](mailto:memiller@blm.gov)

*Going?*

**[Yes](#)** -

**[Maybe](#)** -

**[No](#)** [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov) because you are subscribed for invitations on calendar [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More](#).

<< File: invite.ics >>

**From:** [Joanna Fox](#)  
**To:** [John Trawicki](#); [Wendy Loya](#)  
**Subject:** Fwd: Arctic Refuge Treaties and Agreements  
**Date:** Wednesday, January 31, 2018 3:39:09 PM  
**Attachments:** [Arctic Refuge Treaties and Agreements.pdf](#)

---

Here is the treaty and agreements section from the ccp.

----- Forwarded message -----

From: Fox, Joanna <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>  
Date: Fri, Oct 27, 2017 at 9:06 AM  
Subject: Arctic Refuge Treaties and Agreements  
To: Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>

The combined document is attached. Let me know if you need anything else!

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
101 12th Avenue, Room 236  
Fairbanks, AK 99701  
(907) 456-0549

Follow us on Facebook!  
[www.facebook.com/arcticnationalwildliferefuge](http://www.facebook.com/arcticnationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*  
--

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
101 12th Avenue, Room 236  
Fairbanks, AK 99701  
(907) 456-0549

Follow us on Facebook!  
[www.facebook.com/arcticnationalwildliferefuge](http://www.facebook.com/arcticnationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*

**From:** [Wendy Loya](#)  
**To:** [Mary Colligan](#)  
**Subject:** FW: Bibliography  
**Date:** Wednesday, January 31, 2018 4:17:12 PM

---

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Lor, Socheata [mailto:[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)]  
**Sent:** Wednesday, January 31, 2018 10:15 AM  
**To:** Martin, John  
**Cc:** Drew Crane; Wendy Loya; Steve Berendzen; John Trawicki; Doug Damberg  
**Subject:** Re: Bibliography

Okay, I just sent Greg a correction message that it is NOT exhaustive. We need to work on putting together a list.

**Soch**

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

On Wed, Jan 31, 2018 at 8:48 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

**FYI - regarding comprehensiveness of USGS Memo Bibliography.**

**Thanks**

----- Forwarded message -----

**From:** **Pearce, John** <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>  
**Date:** Wed, Jan 31, 2018 at 8:42 AM  
**Subject:** Re: Bibliography  
**To:** "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
**Cc:** Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>

Hi John,

The USGS bibliography does include work by USFWS authors and co-authors, but is not an exhaustive list of all USFWS work for the coastal plain and NPR-A since the request from DOI was for a summary of published work involving USGS.

The earlier published USGS OFR also included some USFWS work from the coastal plain and NPR-A, but only that which is publicly available (not internal reports).

Let me know if you have any additional questions or need additional information on this topic.

John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
[4210 University Drive](#)  
[Anchorage, Alaska 99508](#)  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

On Wed, Jan 31, 2018 at 7:32 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:  
John

Can you answer our RDs question?

Thanks

John

----- Forwarded message -----

From: **Lor, Socheata** <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
Date: Tue, Jan 30, 2018 at 2:58 PM  
Subject: Fwd: Bibliography  
To: "Brady, Stephanie" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, John Martin  
<[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>, "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Wendy Loya  
<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, "Berendzen, Steve"  
<[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>

Hi,

The USGS OFR includes work of Service staff, but does it include everything done by Service staff?

**Soch**

~~~~~

*Socheata Lor, Ph.D.  
Acting Assistant Regional Director - Region 7*

National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)  
[Office: 907.786.3420](#)  
[Cell: 907.891.6194](#)  
~~~~~

----- Forwarded message -----

From: **Greg Siekaniec** <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
Date: Tue, Jan 30, 2018 at 2:19 PM  
Subject: Fwd: Bibliography  
To: [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov), [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)  
Cc: [karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)

Mary/Soch,

Do you know if this USGS information also represents the FWS science per Arctic NWR as well? If not, we need to figure out how we can complete a bibliography of science that is representative of our work as well.

Thanks,

Greg

Sent from my iPhone

Begin forwarded message:

**From:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Date:** January 30, 2018 at 1:16:15 PM AKST  
**To:** Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
**Subject:** Fwd: Bibliography

Greg,

See below. Can you have someone pull this together. I know we had an extensive bibliography on the Arctic website but I don't think it has been kept up to date.

jim

Sent from my iPhone

Begin forwarded message:

**From:** "Dove, William" <[william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov)>  
**Date:** January 30, 2018 at 5:08:59 PM EST  
**To:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Cc:** Greg Sheehan <[Greg\\_J\\_Sheehan@fws.gov](mailto:Greg_J_Sheehan@fws.gov)>

**Subject: Bibliography**

Jim,

I am trying to put together a bibliography on any science that we have produced on the NPR-A and the 1002 area.

We were hoping to get this information from FWS, Greg said that you might be able to help with this. I have attached the document that USGS for reference. Should you have any questions please let me know.

Best,

Billy

**Billy Dove** | *Special Assistant*  
Office of the Assistant Secretary  
Land and Minerals Management  
U.S. Department of the Interior

**From:** [Wendy Loya](#)  
**To:** [Tauline Davis](#)  
**Subject:** Meeting with Greg regarding 1002 Coordination  
**Date:** Wednesday, January 31, 2018 4:45:42 PM

---

Hi Tauline,

Greg and I would like to meet to discuss my new role as the point of contact for Coastal Plain 1002 area oil and gas program. Can you find a time for us to talk?

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)



**From:** [Wendy Loya](#)  
**To:** [Miriam \(Nicole\) Hayes](#)  
**Subject:** Accepted: NSSI and 1002

---

**From:** [Hayes, Miriam \(Nicole\)](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: BLM contacts for FWS Internal Resource Assessment?  
**Date:** Wednesday, January 31, 2018 4:59:38 PM  
**Attachments:** [Table - Discipline Subjects & Interagency Teams Shelly's edits 013018.docx](#)  
[Table - Discipline Subjects & Interagency Teams.docx](#)

---

Hi Wendy,

Attached are our program leads for the various resources. I am also going to send you an updated list I received from Shelly Jones (Acting Arctic District Manager) with their resource specialists in the Arctic office (title states "Shelly's edits"). This one may be more useful for your internal science assessment process as the program leads typically review works the specialists prepare.

Please let me know if you have any questions.

Thanks,  
Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

On Wed, Jan 31, 2018 at 2:43 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Nicole,

I believe you or Sarena said you did have a list of BLM names for our internal science assessment process (which looks similar to the excel sheet you all have for Leasing Plan EIS). I don't think we received that, or if you had hard copies I did not get one. We would like to have that for an internal meeting tomorrow at 12:30pm.

I will return the Excel sheet requested by Sarena for Leasing Plan EIS contacts by 430pm today.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** [Hayes, Miriam \(Nicole\)](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: FW: Arctic Refuge Treaties and Agreements  
**Date:** Wednesday, January 31, 2018 5:00:49 PM

---

Excellent - thanks, Wendy. Where might I be able to get a hard copy of the CCP?  
Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

On Wed, Jan 31, 2018 at 2:53 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Nicole,

Joanna Fox, Deputy Refuge Manager Arctic National Wildlife Refuge, provided the attached list of treaties and agreements as presented in the Arctic Refuge CCP approved 3 years ago. We discussed this in the meeting at FWS yesterday afternoon.

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** [Leonard, Paul](#)  
**To:** [John Martin](#); [Wendy Loya](#)  
**Subject:** snow / climate assessment draft  
**Date:** Wednesday, January 31, 2018 5:31:42 PM  
**Attachments:** [Snow Climate Resources.docx](#)

---

please see attached.

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

**From:** [Wendy Loya](#)  
**To:** [John Martin](#)  
**Cc:** [Paul Leonard](#)  
**Subject:** Attachments for Email for 1002 Team Lead meeting on 2/1/18  
**Date:** Wednesday, January 31, 2018 5:31:59 PM  
**Attachments:** [Coastal Plain 1002 Area State of Knowledge - Polar Bears v3.0.docx](#)  
[Table - FWS Resource Assessment Discipline Subjects Interagency Teams 31Jan2018.docx](#)

---

Hi John,

Here is the Polar Bear Example to share with group.

Paul will send you the Snow example to also attach

You have template, send out as one pager

I am also attaching the BLM contacts list inserted into our table that just came in!

The only thing I think we weren't on the same page about when you last described the reports is that they might be 1 page. I can't imagine they will be less than 2-4 pages, so as we talk tomorrow we can make clear we aren't looking for chapters, but a few thoughtful pages of important science needs that folks identify today. Other talking point is that as we get more info on timeline and actions, we will work with Teams to revise and adapt these plans.

Thanks John!

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Leonard, Paul](#)  
**To:** [John Martin](#); [Wendy Loya](#)  
**Subject:** Re: snow / climate assessment draft  
**Date:** Wednesday, January 31, 2018 5:36:24 PM  
**Attachments:** [Snow Climate Resources.docx](#)

---

I had a misplaced paragraph I was editing from earlier.

Please use this version.

Cheers,  
Paul

On Wed, Jan 31, 2018 at 3:33 PM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
hold on one second, sorry.

On Wed, Jan 31, 2018 at 3:31 PM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:  
please see attached.

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216

Fairbanks, AK 99701  
(907) 456-0445



**From:** [Hayes, Miriam \(Nicole\)](#)  
**To:** [Serena Sweet](#)  
**Cc:** [Aimee Devaris](#); [Amea Howard](#); [Bradley Shults](#); [Brumbaugh, Robert](#); [Burns, Melissa](#); [Casey Burns](#); [Catherine Hillis](#); [Christian Zimmerman](#); [Christopher Putnam](#); [Dave Mushovic](#); [Debora Nigro](#); [Diane Granfors](#); [Donna Wixon](#); [Doug Damberg](#); [Douglass Cooper](#); [Drew Crane](#); [Elizabeth Labunski](#); [Eric Taylor](#); [Fritz, Stacey](#); [Greg Siekaniec](#); [Jessie Chmielowski](#); [John Trawicki](#); [Jordan Muir](#); [Karen Clark](#); [Karen Mouritsen](#); [Kimberly Klein](#); [Kyle James](#); [Laura Mcduffie](#); [Lesli Ellis-Wouters](#); [Margaret Perdue](#); [Mark Miller](#); [Marlo Draper](#); [Martin, John](#); [Mary Colligan](#); [Pearce, John](#); [Richard Lanctot](#); [Robert Kaler](#); [Ronnie Sanchez](#); [Ryan Noel](#); [Sara Boario](#); [Sara Longan](#); [Sarah LaMarr](#); [Shelly Jacobson](#); [Socheata Lor](#); [Stephanie Brady](#); [Stephen Wackowski](#); [Steven Cohn](#); [Tamara Zeller](#); [Ted Murphy](#); [Tracy Fischbach](#); [Wayne Svejnoha](#); [Wendy Loya](#); [Zachary Lyons](#); [william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov); [David Houseknecht](#)  
**Subject:** 1-19-18 Arctic Leasing Workshop Notes  
**Date:** Wednesday, January 31, 2018 5:39:01 PM  
**Attachments:** [Workshop Notes.pdf](#)

---

Hi,

Attached are the notes taken during the Arctic Leasing Workshop on the 19th.

Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** FW: 1-19-18 Arctic Leasing Workshop Notes  
**Date:** Wednesday, January 31, 2018 6:09:39 PM  
**Attachments:** [Workshop Notes.pdf](#)

---

Not sure if you are on the list since you were on the phone...share with anyone else up there you know is missing?

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]  
**Sent:** Wednesday, January 31, 2018 3:39 PM  
**To:** Serena Sweet  
**Cc:** Aimee Devaris; Ameer Howard; Bradley Shults; Brumbaugh, Robert; Burns, Melissa; Casey Burns; Catherine Hillis; Christian Zimmerman; Christopher Putnam; Dave Mushovic; Debora Nigro; Diane Granfors; Donna Wixon; Doug Damberg; Douglass Cooper; Drew Crane; Elizabeth Labunski; Eric Taylor; Fritz, Stacey; Greg Siekaniec; Jessie Chmielowski; John Trawicki; Jordan Muir; Karen Clark; Karen Mouritsen; Kimberly Klein; Kyle James; Laura McDuffie; Lesli Ellis-Wouters; Margaret Perdue; Mark Miller; Marlo Draper; Martin, John; Mary Colligan; Pearce, John; Richard Lancot; Robert Kaler; Ronnie Sanchez; Ryan Noel; Sara Boario; Sara Longan; Sarah LaMarr; Shelly Jacobson; Socheata Lor; Stephanie Brady; Stephen Wackowski; Steven Cohn; Tamara Zeller; Ted Murphy; Tracy Fischbach; Wayne Svejnoha; Wendy Loya; Zachary Lyons; [william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov); David Houseknecht  
**Subject:** 1-19-18 Arctic Leasing Workshop Notes

Hi,

Attached are the notes taken during the Arctic Leasing Workshop on the 19th.

Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

**From:** [Martin, John](#)  
**To:** [Janet Jorgenson](#); [Tracy Fischbach](#); [Christopher Latty](#); [Angela Matz](#); [Jennifer Reed](#); [John Trawicki](#); [Drew Crane](#); [Edward Decleva](#); [Stephen Arthur](#); [Paul Leonard](#); [Eric Taylor](#); [Randy Brown](#); [Steve Berendzen](#); [Greta Burkart](#); [Mark Miller](#); [Roger Kaye](#); [Hollis Twitchell](#); [Wendy Loya](#)  
**Cc:** [Stephanie Brady](#)  
**Subject:** Coastal Plain 1002 Area Final Guidance for Reporting Template  
**Date:** Wednesday, January 31, 2018 6:14:06 PM  
**Attachments:** [EXAMPLE Climate & Snow Resources.docx](#)  
[EXAMPLE Polar Bear v3.0.docx](#)  
[REPORTING TEMPLATE simple.docx](#)

---

All

Please find attached the basic reporting template. This has not changed from the initial format.

Additionally, two examples are attached for your consideration and referral in preparing your discipline reports: one biological resource and one physical resource.

These reports due **COB 16 Feb 2018**. Further, they are not comprehensive and therefore, include only that known information and missing data deemed the highest priorities for moving forward. It should be understood that this is only a precursor to more comprehensive discipline specialty evaluations that will be generated in the future.

Our discussion tomorrow will provide an opportunity to team leads to get and give information and answer any questions.

Thanks to your efforts on this matter

John

**From:** [Wendy Loya](#)  
**To:** [Serena Sweet](#); [Miriam \(Nicole\) Hayes](#); [Marlo Draper](#)  
**Cc:** [Drew Crane](#); [John Trawick](#); [Eric Taylor](#); [Joanna Fox](#); [Steve Berendzen](#)  
**Subject:** RE: Coastal Plain 1002 Leasing Plan - FWS Resource Leads  
**Date:** Wednesday, January 31, 2018 6:18:23 PM  
**Attachments:** [BLM requested Coastal Plain 1002 ID Team FWS 013118.xlsx](#)

---

Hi Serena,

Attached is our initial points of contact for Coastal Plain 1002 Leasing Plan EIS development. We submit this with the caveats that some of the contacts are species/resource specific and additional expertise may be needed for the wildlife biology subjects especially; we'll sort all that out once we begin to assemble to write. Let me know if you have any questions.

We'll look forward to next steps and keep this list updated as the situation evolves.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Sweet, Serena [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]  
**Sent:** Tuesday, January 30, 2018 4:09 PM  
**To:** Wendy Loya  
**Cc:** Miriam (Nicole) Hayes; Marlo Draper  
**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Hi Wendy,  
As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my leadership has asked that we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have an expert for, feel free to leave it blank.

Thank you and please let me know if you have any questions.

**Serena Sweet**  
BLM-Alaska, Resources Division  
  
Supervisory Planning  
&  
Environmental Coordinator  
Desk: 907-271-4543  
Cell: 907-223-3267

**From:** [Wendy Loya](#)  
**To:** [Socheata Lor](#)  
**Subject:** RE: Bibliography  
**Date:** Wednesday, January 31, 2018 6:31:18 PM

---

Soch,

I talked with Mary C about this briefly. I suggested that the Arctic Refuge CCP would be an excellent source for a relatively updated bibliography and capture the in-house knowledge at the time it was drafted. I think we can pull a bibliography together, but it would be important to know the scope and intent. If it is to draft an EIS, we may not need to seek every published study by FWS to include but if it is to evaluate science investment we would want every authored and co-authored publication. A chance to refine the question by understanding the need would be great if possible.

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Socheata Lor [mailto:[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)]  
**Sent:** Wednesday, January 31, 2018 4:25 PM  
**To:** [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**Subject:** Fwd: Bibliography

Hi Wendy,

I'm anticipating that the Dept will want a similar list from us. If so, how should we proceed putting the list together? Work with POCs from the programs and refuge?

I should be in tomorrow

Sent from my iPhone

Begin forwarded message:

**From:** Socheata Lor <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
**Date:** January 31, 2018 at 4:21:41 PM AKST  
**To:** Greg Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
**Subject:** Re: Bibliography

Hi Greg,

The USGS biblio includes publicly available work authored and coauthored by Service staff but not internal reports and gray literature. We probably have more publicly available literature that aren't on the USGS biblio. at the refuge, MBM, and Marine Mammals.

We think the 2002 USGS report that summarized work done in the 1002 area, which the recent USGS report updated, has a comprehensive list of work done by the Service, but we'll check.

Also, when would the Dept like the information if they want more than what's in the USGS biblio? More time would be greatly appreciated by our staff.

Sent from my iPhone

On Jan 31, 2018, at 2:03 PM, Greg Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)> wrote:

Thanks Soch,

I'm interested in what other information we are speaking of regarding this request.

Greg

Sent from my iPhone

On Jan 31, 2018, at 8:54 AM, Lor, Socheata <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)> wrote:

Greg,

Ignore my previous message. I just got a correction from another staff that the USGS biblio. does NOT contain exhaustive work of the Service, so we'll have to pull together our own bibliography. I'll work with Wendy to get this done.

Sorry about that.

Soch

~~~~~  
*Socheata Lor, Ph.D.  
Acting Assistant Regional Director - Region 7  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
Office: 907.786.3420  
Cell: 907.891.6194*  
~~~~~

On Wed, Jan 31, 2018 at 8:20 AM, Lor, Socheata  
<[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)> wrote:  
Our folks confirmed that the final USGS biblio. contains  
exhaustive work from Service staff.

Soch

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

On Tue, Jan 30, 2018 at 4:54 PM, Mary Colligan  
<[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)> wrote:  
Greg-It is based on all available information not specific  
to any one agency.

Sent from my iPhone

On Jan 30, 2018, at 2:19 PM, Greg Siekaniec  
<[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)> wrote:

Mary/Soch,

Do you know if this USGS information also  
represents the FWS science per Arctic NWR  
as well? If not, we need to figure out how  
we can complete a bibliography of science  
that is representative of our work as well.

Thanks,

Greg

Sent from my iPhone

Begin forwarded message:

**From:** Jim Kurth  
<[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Date:** January 30, 2018 at  
1:16:15 PM AKST  
**To:** Gregory Siekaniec

<[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>

**Subject: Fwd: Bibliography**

Greg,

See below. Can you have someone pull this together. I know we had an extensive bibliography on the Arctic website but I don't think it has been kept up to date.

jim

Sent from my iPhone

Begin forwarded message:

**From:** "Dove, William"  
<[william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov)>  
**Date:** January 30, 2018 at 5:08:59 PM EST  
**To:** Jim Kurth  
<[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Cc:** Greg Sheehan  
<[Greg\\_J\\_Sheehan@fws.gov](mailto:Greg_J_Sheehan@fws.gov)>  
**Subject:**  
**Bibliography**

Jim,

I am trying to put together a bibliography on any science that we have produced on the NPR-A and the 1002 area.

We were hoping to get this information from FWS, Greg said that you might be able to help with this. I have attached the document that USGS for reference. Should you have any



questions please let  
me know.

Best,

Billy

**Billy Dove** | *Special*  
*Assistant*  
Office of the  
Assistant  
Secretary  
Land and  
Minerals  
Management  
U.S. Department  
of the Interior

<mime-attachment.html>

<InfoMemo-Bibliography of USGS  
Research Conducted in the ANWR 1002  
Area and\_or the NPRA.20180119.pdf>

<mime-attachment.html>

**From:** [Loya, Wendy](#)  
**To:** [Martin, John](#)  
**Subject:** Re: quick question re 1002 resource assessment format...  
**Date:** Wednesday, January 31, 2018 9:46:17 AM

---

Hey John,

Good morning.

Let's touch base on the Thursday meeting invite, what is your office extension? I'd also like to know where to find your office.

Thanks!

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.277.2942 (mobile)

On Wed, Jan 31, 2018 at 7:37 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Mark

Don't see why not. That said, Wendy and I, along with other team leads will be sorting this out in the immediate future.

Thanks

John

On Tue, Jan 30, 2018 at 1:43 PM, Miller, Mark <[memiller@blm.gov](mailto:memiller@blm.gov)> wrote:

John -

Is it acceptable to use a table (or two) to facilitate succinct presentation of information?

Mark

---

**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
[222 West 7th Avenue, #13 | Anchorage, AK 99513](#)

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

**From:** [Martin, John](#)  
**To:** [Granfors, Diane](#)  
**Cc:** [Fischbach, Tracy](#); [Stephanie Brady](#); [Wendy Loya](#); [John Trawicki](#); [Doug Damberg](#); [Lor, Socheata](#); [Hilmar Maier](#); [McCrea Cobb](#)  
**Subject:** Re: 700 records for Arctic refuge in ServCat  
**Date:** Thursday, February 1, 2018 9:41:42 AM

---

Diane

Yes, would like to see ARLIS engaged. And USGS had a role as data curator for the 1002 area under the historic resource assessments, now likely to be reinitiated.

When I was working with invasive species there was a significant push for consolidation of Holarctic data into a single databank and NSSI kept floating to the top. It has the infrastructure and cooperative partners as a solid foundation. However, the expansion of that database beyond the North Slope would have required an expansion of their charter. This however, is obviously within their purview.

Thanks. Please advise if there is anything I can do.

John

On Thu, Feb 1, 2018 at 7:31 AM, Granfors, Diane <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)> wrote:

I suggest we get Hilmar, and perhaps Josh Bradley, involved to help develop a data management plan as suggested yesterday. I know there had been discussions years back with NSSI about linking Arctic refuge records into ServCat without moving them - that is definitely possible. We might want to enlist ARLIS to manage records into the future? They have been working with us on ServCat for a while now and being librarians, now how to create good records.

Hilmar is at a conference this week but I think he is back next week.

On Thu, Feb 1, 2018 at 6:57 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Thanks for sharing.

Knew there was a bunch as I have been poking around.

Next questions are: are there more and what is the best place to store for ready-access in the coming months and/or over the lifespan of the oil and gas program. I am not suggesting purging the ServCat records but somehow connecting these to other data storage sites - ARLIS, NSSI, academia. I can envision an index website for access to multiple archive storage sites. Then that begs the matter of having a site manager to potentially inventory and currate this information that may have increasing value and application as the oil and gas program evolves.

On Wed, Jan 31, 2018 at 4:30 PM, Granfors, Diane <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)> wrote:

You may have already been aware - quite a number of records. A lot (100+) have to do with water rights, but still quite a number of unpublished reports, etc. 44 with word "seismic". Someone's been busy!

--

Diane Granfors, PhD  
Alaska Region Inventory and Monitoring Coordinator  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
1011 East Tudor Road, MS 235  
Anchorage, AK 99503  
[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)  
907-786-3429

*Collaborative ecosystem science to inform National Wildlife Refuge System conservation decisions in Alaska.*

--

Diane Granfors, PhD  
Alaska Region Inventory and Monitoring Coordinator  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
1011 East Tudor Road, MS 235  
Anchorage, AK 99503  
[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)  
907-786-3429

*Collaborative ecosystem science to inform National Wildlife Refuge System conservation decisions in Alaska.*

**From:** [Lor, Socheata](#)  
**To:** [Martin, John](#)  
**Cc:** [Drew Crane](#); [Wendy Loya](#); [Steve Berendzen](#); [John Trawicki](#); [Doug Damberg](#); [Colligan, Mary](#); [Eric Taylor](#)  
**Subject:** Re: Bibliography  
**Date:** Thursday, February 1, 2018 9:49:09 AM

---

Hi All,

I asked Greg for some clarification on purpose/intent of the biblio., due date, and a couple of other questions and here's what he suggested:

Looks like the note was for "science" we have produced on the NPR-A and the 1002 area. If the bibliography captures the published science and we can indicate from a certain date it is current or if we can find the Arctic website Deputy Kurth is referring to and it adds to the USGS recent work than we can do that. Let's not get into all the "data" banks but if we have reports that are not necessarily published but often referenced we should produce a reference as available.

I'll get with Wendy later today and will loop back with all of you. I think she's already got a plan, starting with the CCP.

**Soch**

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

On Wed, Jan 31, 2018 at 10:23 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Soch

Is this something you see as Refuges compiling (i.e., planning), or Refuge staff, in concert with MBM or other program activities that may have worked on/for Arctic Refuge? Should I&M efforts be included - Diane Granfors and ServCat data? And what's the timeframe - exhaustive (i.e., all dates), or since 2002, or some other subset? Is this an official assignment?

Thanks

John

On Wed, Jan 31, 2018 at 10:15 AM, Lor, Socheata <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)> wrote:

Okay, I just sent Greg a correction message that it is NOT exhaustive. We need to work on putting together a list.

**Soch**

~~~~~  
Socheata Lor, Ph.D.  
Acting Assistant Regional Director - Region 7  
National Wildlife Refuge System  
U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)  
Office: 907.786.3420  
Cell: 907.891.6194  
~~~~~

On Wed, Jan 31, 2018 at 8:48 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:  
FYI - regarding comprehensiveness of USGS Memo Bibliography.

Thanks

----- Forwarded message -----  
From: **Pearce, John** <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>  
Date: Wed, Jan 31, 2018 at 8:42 AM  
Subject: Re: Bibliography  
To: "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
Cc: Aimee Devaris <[adevaris@usgs.gov](mailto:adevaris@usgs.gov)>

Hi John,

The USGS bibliography does include work by USFWS authors and co-authors, but is not an exhaustive list of all USFWS work for the coastal plain and NPR-A since the request from DOI was for a summary of published work involving USGS.

The earlier published USGS OFR also included some USFWS work from the coastal plain and NPR-A, but only that which is publicly available (not internal reports).

Let me know if you have any additional questions or need additional information on this topic.

John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
[4210 University Drive](#)  
[Anchorage, Alaska 99508](#)  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

On Wed, Jan 31, 2018 at 7:32 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

John

Can you answer our RDs question?

Thanks

John

----- Forwarded message -----

From: **Lor, Socheata** <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>

Date: Tue, Jan 30, 2018 at 2:58 PM

Subject: Fwd: Bibliography

To: "Brady, Stephanie" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, John Martin <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>, "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, "Berendzen, Steve" <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>

Hi,

The USGS OFR includes work of Service staff, but does it include everything done by Service staff?

**Soch**

~~~~~

*Socheata Lor, Ph.D.*

*Acting Assistant Regional Director - Region 7*

*National Wildlife Refuge System*

*U.S. Fish and Wildlife Service*

*1011 E. Tudor Road*

*Anchorage, AK 99503*

*Office: 907.786.3420*

*Cell: 907.891.6194*

~~~~~

----- Forwarded message -----

From: **Greg Siekaniec** <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>

Date: Tue, Jan 30, 2018 at 2:19 PM

Subject: Fwd: Bibliography

To: [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov), [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)

Cc: [karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)

Mary/Soch,

Do you know if this USGS information also represents the FWS science per Arctic NWR as well? If not, we need to figure out how we can complete a bibliography of science that is representative of our work as well.

Thanks,

Greg

Sent from my iPhone

Begin forwarded message:

**From:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Date:** January 30, 2018 at 1:16:15 PM AKST  
**To:** Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
**Subject:** Fwd: Bibliography

Greg,

See below. Can you have someone pull this together. I know we had an extensive bibliography on the Arctic website but I don't think it has been kept up to date.

jim

Sent from my iPhone

Begin forwarded message:

**From:** "Dove, William" <[william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov)>  
**Date:** January 30, 2018 at 5:08:59 PM EST  
**To:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Cc:** Greg Sheehan <[Greg\\_J\\_Sheehan@fws.gov](mailto:Greg_J_Sheehan@fws.gov)>  
**Subject:** Bibliography

Jim,

I am trying to put together a bibliography on any science that we have produced on the NPR-A and the 1002 area.

We were hoping to get this information from FWS, Greg said that you might be able to help with this. I have attached the document that USGS for reference. Should you have any questions please let me know.

Best,

Billy

**Billy Dove** | *Special Assistant*  
Office of the Assistant Secretary  
Land and Minerals Management  
U.S. Department of the Interior



**From:** [John Pearce](#)  
**To:** [mnhayes@blm.gov](mailto:mnhayes@blm.gov); [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)  
**Subject:** Fwd: [hearing prep] ANWR climate assessment  
**Date:** Thursday, February 1, 2018 9:49:32 AM

---

FYI.

Begin forwarded message:

**From:** Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>  
**Date:** February 1, 2018 at 6:51:58 AM AKST  
**To:** John Pearce <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)>  
**Subject:** Fwd: [hearing prep] ANWR climate assessment

Sent from my iPhone

Begin forwarded message:

**From:** Julia Jester <[jjester@usgs.gov](mailto:jjester@usgs.gov)>  
**Date:** February 1, 2018 at 10:49:27 AM EST  
**To:** Christian Zimmerman <[czimmerman@usgs.gov](mailto:czimmerman@usgs.gov)>, Paul Laustsen <[plaustsen@usgs.gov](mailto:plaustsen@usgs.gov)>  
**Subject:** Fwd: [hearing prep] ANWR climate assessment

FYI

USGS Congressional  
571-352-4677

FYI,

E&E story.

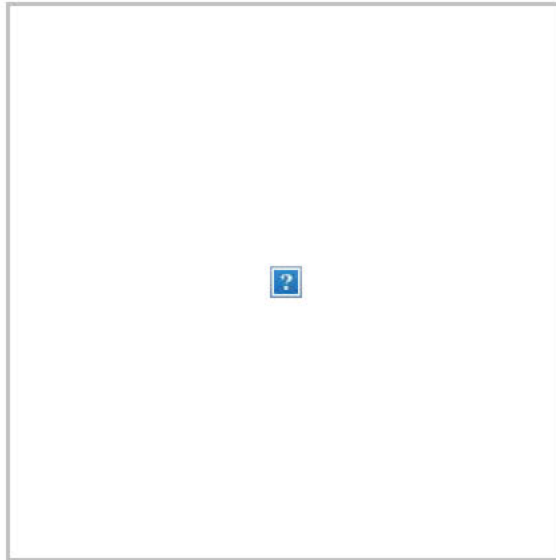
Chris Trent  
Congressional Liaison  
[USGS.gov](http://USGS.gov)  
703-648-4451 (office)  
571-524-1869 (mobile)

**ANWR**  
**Trump agency finds climate impacts on**

## Arctic wildlife

**Brittany Patterson**, E&E News

**reporter**Published: Tuesday, January 30, 2018



Caribou graze on the coastal plain of the Arctic National Wildlife Refuge, with the Brooks Range as a backdrop. Fish and Wildlife Service/Flickr

Climate change is dramatically impacting some of the iconic species that live in and around the Arctic National Wildlife Refuge, according to a report released last week by the U.S. Geological Survey.

The [assessment](#), which cites over 100 scientific studies, is a summary of research conducted between 2002 and 2017 about wildlife living on and near the coastal plain, sometimes called the "1002 area," of the refuge.

Species like caribou and polar bears are being impacted by rising temperatures, earlier snowmelt and retreating sea ice, the report finds. It also notes that more research is needed to determine if oil and gas development has affected caribou herd populations. And it says that a drop-off in monitoring has created gaps in scientific understanding of the current state of some species.

The findings are particularly salient as the

Trump administration begins the yearslong process of developing an oil and gas program for the coastal plain of the Arctic refuge.

Sen. Lisa Murkowski (R-Alaska), chairwoman of the Energy and Natural Resources Committee, spearheaded the oil and gas effort through language included in the December tax bill. Congress authorized the Interior Department to hold two lease sales in the 1.5-million-acre region over the next decade. Before it can do so, the agency will have to conduct a series of environmental reviews that lay out how drilling may impact, among other things, wildlife in the refuge.

Conservation groups staunchly oppose drilling in the coastal plain because they say it's the biological heart of the refuge, and they see the new USGS assessment as justifying their position.

"There are some pretty significant points in this report from the Trump administration's Interior Department highlighting the impacts of drilling, highlighting the need for more study and information, and pointing to the impacts of climate change as one of the other major reasons why the coastal plain of the Arctic refuge is increasingly important to wildlife," said Adam Kolton, executive director of the Alaska Wilderness League.

In the case of polar bears along the southern Beaufort Sea, the report finds that retreating sea ice appears to be causing the bears to spend more time in the coastal plain. Over the last two decades, the number of ice-free days in the southern Beaufort Sea jumped by 36. In addition, higher temperatures have contributed to a longer melt season. A 2016 study using data from radio-collared female polar bears found that the percentage of females coming ashore during the summer and fall months increased from 5.8 percent in 2000 to 20 percent in 2014.

For another important keystone species — caribou — the report paints a complicated picture.

Population numbers are up for the migrating Porcupine caribou herd. This particular herd is especially important for the Gwich'in Nation, which has hunted it for millennia.

Research cited in the report also digs into the forces behind the shifting nature of where the herd chooses to have babies, known as calving. Between 1983 and 2001, scientists observed that most of the herd calved almost exclusively in the 1002 area. Between 2002 and 2017, the Porcupine caribou herd split its time between Canada and Alaska when calving, according to distribution maps generated by the U.S. Fish and Wildlife Service.

The location of calving grounds also varied across the coastal plain of northeastern Alaska and northwestern Canada. Climate change appears to be playing a role in these shifts.

A 2017 paper suggests the herd may shift its calving locations in "response to delayed snow melt on the coastal plain of Alaska."

FWS concluded in its 2015 mapping exercise that because of the annual variability in calving locations, the herd "needs a large region from which the best conditions for calving can be selected in a given year."

The assessment also notes that only a handful of studies look at the impacts of oil and gas development on the calving grounds of two other caribou herds, the Central Arctic and Teshekpuk. Oil and gas infrastructure built in the late 1970s to 1980s in Prudhoe Bay appeared to deter some caribou from calving while having no effect on others.

The report concludes that more research is

needed. Kolton, with the Alaska Wilderness League, welcomed that suggestion.

"We heard time and time again ... from Sen. Murkowski and others that there would be no short-circuiting of environmental review, no waiving of environmental laws," he said. "What we're hearing from the Trump administration's own Interior Department is that much more study is needed before you can undertake an oil and gas program in the Arctic refuge."

---

Twitter: [@amusedbrit](#) | Email: [bpatterson@eenews.net](mailto:bpatterson@eenews.net)

**From:** [Jess Grunblatt](#)  
**To:** [Miller, Mark](#)  
**Cc:** [Wendy Loya](#); [Joshua Bradley](#); [Paul Leonard](#)  
**Subject:** Re: FW: (adjusted) Record compilation of FWS research on 1002 area  
**Date:** Thursday, February 1, 2018 10:36:22 AM

---

Greetings,

Several years ago I talked with ARLIS about ways to coordinate document sharing and archival of documents (both hardcopy and digital). Its certainly worth considering. Currently the NSSI site is providing over 400 downloads a day and I would like to keep a flow of new and useful content coming in to the site. We are also considering other support options (see Mark's prior email).

Per Diane's comment, we run the Catalog as a distributed model and encourage remote hosting as long as the remote site is stable.

Jess

On Thu, Feb 1, 2018 at 8:20 AM, Miller, Mark <[memiller@blm.gov](mailto:memiller@blm.gov)> wrote:

Thanks for sharing.

---

**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: [907-271-3212](tel:907-271-3212) | Mobile: [907-231-9427](tel:907-231-9427)  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
[222 West 7th Avenue, #13 | Anchorage, AK 99513](#)

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
— E. O. Wilson, *Consilience*

On Thu, Feb 1, 2018 at 8:17 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Mark, Jess, Josh:

This is an evolving conversation in FWS Regional Office after a HQ request to know if the USGS report was comprehensive of all the work done (it is not). Linking you all in as an FYI given we talked yesterday about how the NSSI and the data catalog might provide support on 1002 areas. I will be in touch as more info comes in or as we need more info to expedite a conversation about access to publications, other info about 1002 and NPRA from FWS research efforts (which would include what the Arctic LCC has coordinated). There are multiple pathways to do this, if we do in fact need to do this, so no action yet but in the process of defining the need.

Thanks, happy Thursday!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

[907.786.3532](tel:907.786.3532) (office)

[907.227.2942](tel:907.227.2942) (mobile)

**From:** Martin, John [mailto:[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)]

**Sent:** Thursday, February 01, 2018 7:42 AM

**To:** Granfors, Diane

**Cc:** Fischbach, Tracy; Stephanie Brady; Wendy Loya; John Trawicki; Doug Damberg; Lor, Socheata; Hilmar Maier; McCrea Cobb

**Subject:** Re: 700 records for Arctic refuge in ServCat

Diane

Yes, would like to see ARLIS engaged. And USGS had a role as data curator for the 1002 area under the historic resource assessments, now likely to be reinitiated.

When I was working with invasive species there was a significant push for consolidation of Holarctic data into a single databank and NSSI kept floating to the top. It has the infrastructure and cooperative partners as a solid foundation. However, the expansion of that database beyond the North Slope would have required an expansion of their charter. This however, is obviously within their purview.

Thanks. Please advise if there is anything I can do.

John

On Thu, Feb 1, 2018 at 7:31 AM, Granfors, Diane <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)> wrote:

I suggest we get Hilmar, and perhaps Josh Bradley, involved to help develop a data management plan as suggested yesterday. I know there had been discussions years back with NSSI about linking Arctic refuge records into ServCat without moving them - that is definitely possible. We might want to enlist ARLIS to manage records into the future? They have been working with us on ServCat for a while now and being librarians, now how to create good records.

Hilmar is at a conference this week but I think he is back next week.

On Thu, Feb 1, 2018 at 6:57 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Thanks for sharing.

Knew there was a bunch as I have been poking around.

Next questions are: are there more and what is the best place to store for ready-access in the coming months and/or over the lifespan of the oil and gas program. I am not suggesting purging the ServCat records but somehow connecting these to other data storage sites - ARLIS, NSSI, academia. I can envision an index website for access to multiple archive storage sites. Then that begs the matter of having a site manager to potentially inventory and currate this information that may have increasing value and application as the oil and gas program evolves.

On Wed, Jan 31, 2018 at 4:30 PM, Granfors, Diane <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)> wrote:

You may have already been aware - quite a number of records. A lot (100+) have to do with water rights, but still quite a number of unpublished reports, etc. 44 with word "seismic". Someone's been busy!

--

---

Diane Granfors, PhD

Alaska Region Inventory and Monitoring Coordinator



National Wildlife Refuge System

U.S. Fish and Wildlife Service

1011 East Tudor Road, MS 235

Anchorage, AK 99503

diane\_granfors@fws.gov

907-786-3429

*Collaborative ecosystem science to inform National Wildlife Refuge System conservation decisions in Alaska.*

--

-----  
Diane Granfors, PhD

Alaska Region Inventory and Monitoring Coordinator

National Wildlife Refuge System

U.S. Fish and Wildlife Service

1011 East Tudor Road, MS 235

Anchorage, AK 99503

diane\_granfors@fws.gov

907-786-3429

*Collaborative ecosystem science to inform National Wildlife Refuge System conservation decisions in Alaska.*



--

**Jess Grunblatt**  
Research Professional  
Alaska Center for Conservation Science (ACCS)  
University of Alaska Anchorage,  
Beatrice McDonald Hall - Rm 112  
3211 Providence Dr., Anchorage, Alaska 99508  
[jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)  
Office: (907) 786 6353  
Cell: (907) 244 2435

**From:** [Sara Boario](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Andrea Medeiros](#); [amee\\_howard@fws.gov](mailto:amee_howard@fws.gov)  
**Subject:** Re: ANWR climate assessment  
**Date:** Thursday, February 1, 2018 10:37:59 AM

---


Thanks Wendy!

Sent from my iPhone

On Feb 1, 2018, at 8:08 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

FYI. Forwarded through our POC at USGS; in case questions come to FWS R7

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**ANWR**  
**Trump agency finds climate impacts on Arctic wildlife**  
[Brittany Patterson](#), E&E News reporter  
Published: Tuesday, January 30, 2018  


Caribou graze on the coastal plain of the Arctic National Wildlife Refuge, with the Brooks Range as a backdrop. Fish and Wildlife Service/Flickr

Climate change is dramatically impacting some of the iconic species that live in and around the Arctic National Wildlife Refuge, according to a report released last week by the U.S. Geological Survey.

The [assessment](#), which cites over 100 scientific studies, is a summary of research conducted between 2002 and 2017 about wildlife living on and near the coastal plain, sometimes called the "1002 area," of the refuge.

Species like caribou and polar bears are being impacted by rising temperatures,

earlier snowmelt and retreating sea ice, the report finds. It also notes that more research is needed to determine if oil and gas development has affected caribou herd populations. And it says that a drop-off in monitoring has created gaps in scientific understanding of the current state of some species.

The findings are particularly salient as the Trump administration begins the yearslong process of developing an oil and gas program for the coastal plain of the Arctic refuge.

Sen. Lisa Murkowski (R-Alaska), chairwoman of the Energy and Natural Resources Committee, spearheaded the oil and gas effort through language included in the December tax bill. Congress authorized the Interior Department to hold two lease sales in the 1.5-million-acre region over the next decade. Before it can do so, the agency will have to conduct a series of environmental reviews that lay out how drilling may impact, among other things, wildlife in the refuge.

Conservation groups staunchly oppose drilling in the coastal plain because they say it's the biological heart of the refuge, and they see the new USGS assessment as justifying their position.

"There are some pretty significant points in this report from the Trump administration's Interior Department highlighting the impacts of drilling, highlighting the need for more study and information, and pointing to the impacts of climate change as one of the other major reasons why the coastal plain of the Arctic refuge is increasingly important to wildlife," said Adam Kolton, executive director of the Alaska Wilderness League.

In the case of polar bears along the southern Beaufort Sea, the report finds that retreating sea ice appears to be causing the bears to spend more time in the coastal plain. Over the last two decades, the number of ice-free days in the southern Beaufort Sea jumped by

36. In addition, higher temperatures have contributed to a longer melt season. A 2016 study using data from radio-collared female polar bears found that the percentage of females coming ashore during the summer and fall months increased from 5.8 percent in 2000 to 20 percent in 2014.

For another important keystone species — caribou — the report paints a complicated picture.

Population numbers are up for the migrating Porcupine caribou herd. This particular herd is especially important for the Gwich'in Nation, which has hunted it for millennia.

Research cited in the report also digs into the forces behind the shifting nature of where the herd chooses to have babies, known as calving. Between 1983 and 2001, scientists observed that most of the herd calved almost exclusively in the 1002 area. Between 2002 and 2017, the Porcupine caribou herd split its time between Canada and Alaska when calving, according to distribution maps generated by the U.S. Fish and Wildlife Service.

The location of calving grounds also varied across the coastal plain of northeastern Alaska and northwestern Canada. Climate change appears to be playing a role in these shifts.

A 2017 paper suggests the herd may shift its calving locations in "response to delayed snow melt on the coastal plain of Alaska."

FWS concluded in its 2015 mapping exercise that because of the annual variability in calving locations, the herd "needs a large region from which the best conditions for calving can be selected in a given year."

The assessment also notes that only a handful of studies look at the impacts of oil and gas development on the calving grounds of two other caribou herds, the Central Arctic and Teshekpuk. Oil and gas

infrastructure built in the late 1970s to 1980s in Prudhoe Bay appeared to deter some caribou from calving while having no effect on others.

The report concludes that more research is needed. Kolton, with the Alaska Wilderness League, welcomed that suggestion.

"We heard time and time again ... from Sen. Murkowski and others that there would be no short-circuiting of environmental review, no waiving of environmental laws," he said. "What we're hearing from the Trump administration's own Interior Department is that much more study is needed before you can undertake an oil and gas program in the Arctic refuge."

Twitter: [@amusedbrit](#) Email: [bpatterson@eenews.net](mailto:bpatterson@eenews.net)

**From:** [Bradley, Joshua](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Mark Miller](#); [Jess Grunblatt](#); [Paul Leonard](#); [Hilmar Maier](#)  
**Subject:** Re: FW: (adjusted) Record compilation of FWS research on 1002 area  
**Date:** Thursday, February 1, 2018 11:05:40 AM

---

Hi,

I would recommend considering the following requirements when looking at possible hosting/cataloging solutions for data and/or metadata, including publications (assuming there's going to be a need to catalog "data", it makes sense to me to consider all types of data, not just "publications"):

- Ease of use
  - End user, how easy is it for users to upload/download information
  - Developer, does the system have a documented API that allows developers to manage/access (meta)data
  - External access and user accounts
  - Support for creating OGC GIS web services for spatial datasets
- Long-term viability
  - Does the system have a history of consistent funding support
  - What is the size of the current user community
- Support for metadata standards (ISO 19115-2, ISO 19115-3, ADIwg mdJSON, FGDC GSDGM, Project Open Data Metadata Schema)
  - Ability to import/export metadata in various formats
  - How good is the conversion support between metadata formats?
- Compatibility with other catalog systems (e.g. Data.gov)
  - Web Accessible folder (WAF) support
  - Catalog Service for the Web (CSW)
  - OAI-PMH
- Security considerations (e.g. FISMA)

In addition to the services that have been mentioned, I would suggest adding ScienceBase to the list. While by no means perfect, it does at least partially meet all of the requirements listed above. USFWS also has an existing relationship with USGS for ScienceBase support. I also believe there has been some discussion regarding ServCat and ScienceBase integration. The LCC Science Catalog uses ScienceBase to store data and metadata, which is searched and accessed via a separate "portal" website. A similar approach could be taken here, via NSSI Catalog if desired.

Josh

=====  
Joshua Bradley  
Arctic LCC Data Manager  
U.S. Fish and Wildlife Service  
101 12th Avenue, Room 216  
Fairbanks, Alaska 99701  
907.455.1847 (office)  
907.519.9370 (cell)

<http://arcticlcc.org>

=====

On Thu, Feb 1, 2018 at 9:17 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Mark, Jess, Josh:

This is an evolving conversation in FWS Regional Office after a HQ request to know if the USGS report was comprehensive of all the work done (it is not). Linking you all in as an FYI given we talked yesterday about how the NSSI and the data catalog might provide support on 1002 areas. I will be in touch as more info comes in or as we need more info to expedite a conversation about access to publications, other info about 1002 and NPRA from FWS research efforts (which would include what the Arctic LCC has coordinated). There are multiple pathways to do this, if we do in fact need to do this, so no action yet but in the process of defining the need.

Thanks, happy Thursday!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Martin, John [mailto:[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)]

**Sent:** Thursday, February 01, 2018 7:42 AM

**To:** Granfors, Diane

**Cc:** Fischbach, Tracy; Stephanie Brady; Wendy Loya; John Trawicki; Doug Damberg; Lor, Socheata; Hilmar Maier; McCrea Cobb

**Subject:** Re: 700 records for Arctic refuge in ServCat

Diane

Yes, would like to see ARLIS engaged. And USGS had a role as data curator for the 1002 area under the historic resource assessments, now likely to be reinitiated.

0000006999



When I was working with invasive species there was a significant push for consolidation of Holarctic data into a single databank and NSSI kept floating to the top. It has the infrastructure and cooperative partners as a solid foundation. However, the expansion of that database beyond the North Slope would have required an expansion of their charter. This however, is obviously within their purview.

Thanks. Please advise if there is anything I can do.

John

On Thu, Feb 1, 2018 at 7:31 AM, Granfors, Diane <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)> wrote:

I suggest we get Hilmar, and perhaps Josh Bradley, involved to help develop a data management plan as suggested yesterday. I know there had been discussions years back with NSSI about linking Arctic refuge records into ServCat without moving them - that is definitely possible. We might want to enlist ARLIS to manage records into the future? They have been working with us on ServCat for a while now and being librarians, now how to create good records.

Hilmar is at a conference this week but I think he is back next week.

On Thu, Feb 1, 2018 at 6:57 AM, Martin, John <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)> wrote:

Thanks for sharing.

Knew there was a bunch as I have been poking around.

Next questions are: are there more and what is the best place to store for ready-access in the coming months and/or over the lifespan of the oil and gas program. I am not suggesting purging the ServCat records but somehow connecting these to other data storage sites - ARLIS, NSSI, academia. I can envision an index website for access to multiple archive storage sites. Then that begs the matter of having a site manager to potentially inventory and currate this information that may have

increasing value and application as the oil and gas program evolves.

On Wed, Jan 31, 2018 at 4:30 PM, Granfors, Diane <[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)> wrote:

You may have already been aware - quite a number of records. A lot (100+) have to do with water rights, but still quite a number of unpublished reports, etc. 44 with word "seismic". Someone's been busy!

--

---

Diane Granfors, PhD

Alaska Region Inventory and Monitoring Coordinator

National Wildlife Refuge System

U.S. Fish and Wildlife Service

1011 East Tudor Road, MS 235

Anchorage, AK 99503

[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)

907-786-3429

*Collaborative ecosystem science to inform National Wildlife Refuge System conservation decisions in Alaska.*

--

Diane Granfors, PhD

Alaska Region Inventory and Monitoring Coordinator

National Wildlife Refuge System

U.S. Fish and Wildlife Service

1011 East Tudor Road, MS 235

Anchorage, AK 99503

[diane\\_granfors@fws.gov](mailto:diane_granfors@fws.gov)

907-786-3429

*Collaborative ecosystem science to inform National Wildlife Refuge System conservation decisions in Alaska.*

**From:** [Hayes, Miriam \(Nicole\)](#)  
**To:** [Serena Sweet](#)  
**Cc:** [Aimee Devaris](#); [Amea Howard](#); [Bradley Shults](#); [Brumbaugh, Robert](#); [Burns, Melissa](#); [Casey Burns](#); [Catherine Hillis](#); [Christian Zimmerman](#); [Christopher Putnam](#); [Dave Mushovic](#); [Debora Nigro](#); [Diane Granfors](#); [Donna Wixon](#); [Doug Damberg](#); [Douglass Cooper](#); [Drew Crane](#); [Elizabeth Labunski](#); [Eric Taylor](#); [Fritz, Stacey](#); [Greg Siekaniec](#); [Jessie Chmielowski](#); [John Trawicki](#); [Jordan Muir](#); [Karen Clark](#); [Karen Mouritsen](#); [Kimberly Klein](#); [Kyle James](#); [Laura Mcduffie](#); [Lesli Ellis-Wouters](#); [Margaret Perdue](#); [Mark Miller](#); [Marlo Draper](#); [Martin, John](#); [Mary Colligan](#); [Pearce, John](#); [Richard Lanctot](#); [Robert Kaler](#); [Ronnie Sanchez](#); [Ryan Noel](#); [Sara Boario](#); [Sara Longan](#); [Sarah LaMarr](#); [Shelly Jacobson](#); [Socheata Lor](#); [Stephanie Brady](#); [Stephen Wackowski](#); [Steven Cohn](#); [Tamara Zeller](#); [Ted Murphy](#); [Tracy Fischbach](#); [Wayne Sveinoha](#); [Wendy Loya](#); [Zachary Lyons](#); [William Dove](#); [David Houseknecht](#)  
**Subject:** 1-19-18 Arctic Leasing Workshop Notes and Sign-In Sheets  
**Date:** Thursday, February 1, 2018 11:16:32 AM  
**Attachments:** [Workshop Notes.pdf](#)  
[1-19-18 Coastal Plain 1002 Workshop Sign-in Sheets.pdf](#)

---

All,

There were several people that requested a list of attendees at the workshop, so I have attached the sign-in sheets along with the workshop notes. I apologize for the multiple messages.

Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#); [Joanna Fox](#); [Sarah Conn](#)  
**Subject:** FW: 1-19-18 Arctic Leasing Workshop Notes and Sign-In Sheets  
**Date:** Thursday, February 1, 2018 11:21:49 AM  
**Attachments:** [Workshop Notes.pdf](#)  
[1-19-18 Coastal Plain 1002 Workshop Sign-in Sheets.pdf](#)

---

Hi Joanna, Paul and Sarah,

It looks like FWS folks that called in to the BLM meeting on 1/19/18 are not included in the sign in and note sharing. If you and your colleagues would like to be included in future correspondence directly, would you send names and contact info in an email to me and I will compile and forward to Nicole at BLM? Please share as needed.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]

**Sent:** Thursday, February 01, 2018 9:16 AM

**To:** Serena Sweet

**Cc:** Aimee Devaris; Aimee Howard; Bradley Shults; Brumbaugh, Robert; Burns, Melissa; Casey Burns; Catherine Hillis; Christian Zimmerman; Christopher Putnam; Dave Mushovic; Debora Nigro; Diane Granfors; Donna Wixon; Doug Damberg; Douglass Cooper; Drew Crane; Elizabeth Labunski; Eric Taylor; Fritz, Stacey; Greg Siekaniec; Jessie Chmielowski; John Trawicki; Jordan Muir; Karen Clark; Karen Mouritsen; Kimberly Klein; Kyle James; Laura McDuffie; Lesli Ellis-Wouters; Margaret Perdue; Mark Miller; Marlo Draper; Martin, John; Mary Colligan; Pearce, John; Richard Lancot; Robert Kaler; Ronnie Sanchez; Ryan Noel; Sara Boario; Sara Longan; Sarah LaMarr; Shelly Jacobson; Socheata Lor; Stephanie Brady; Stephen Wackowski; Steven Cohn; Tamara Zeller; Ted Murphy; Tracy Fischbach; Wayne Svejnoha; Wendy Loya; Zachary Lyons; William Dove; David Houseknecht

**Subject:** 1-19-18 Arctic Leasing Workshop Notes and Sign-In Sheets

All,

There were several people that requested a list of attendees at the workshop, so I have attached the sign-in sheets along with the workshop notes. I apologize for the multiple messages.

Nicole

**Nicole Hayes**

Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

**From:** [Trawicki, John](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Clarification - FWS Resource Leads  
**Date:** Thursday, February 1, 2018 11:36:32 AM

---

Wendy-

She submitted recommendations prior to a broader discussion with Doug and Steve. The thought was better to have Mig. Birds take the lead. Chris can provide assistance.

john t

On Thu, Feb 1, 2018 at 9:09 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

John:

Looking at Joanna's email from yesterday, it actually looks like she says Chris Latty would be the lead...I am fine if that has changed but before I contact Eric, wanted to clarify with you....

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

---

**From:** Joanna Fox [mailto:[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)]  
**Sent:** Wednesday, January 31, 2018 11:22 AM  
**To:** Taylor, Eric  
**Cc:** Wendy Loya; Socheata Lor; Steve Berendzen; Drew Crane; John Trawicki; Stephanie Brady; Sara Boario  
**Subject:** Re: Deadline 3pm today! Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Thanks Eric. We agree that Chris Latty would be a good candidate for a lead role on this team, and also concur that Roy Churchwell has expertise to contribute.

Sent from my iPad

0000007005

On Jan 31, 2018, at 10:23 AM, Taylor, Eric <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)> wrote:

Good Morning Wendy -

Please find attached my recommendations for a FWS Migratory Bird Team Lead and appropriate personnel who could assist in the EIS. As I am recommending personnel from other Programs, it is necessary for others to concur on my suggestions. If I can address any questions, please let me know.

Regards,

Eric

Eric J. Taylor

Chief, Division of Migratory Bird Management

U.S. Fish and Wildlife Service

[1011 E. Tudor Road](#), MS 201

Anchorage, Alaska 99503-6199

907.786.3446 (office)

907.903.7210 (cell)

[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)

On Wed, Jan 31, 2018 at 8:17 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Good morning,

**A request with a deadline for 3pm Today, Wednesday January 31<sup>st</sup>**

BLM Lead for Coastal Plain 1002 Leasing Plan lead Sarena Sweet has asked for initial

0000007006

list of leads for the topics they envision for the Exploration and Leasing EIS that they propose will be completed in about the next year, possibly 1.5 years to get to a lease sale in 2 years. That timeline is important as we think who will be able to help with identifying content and leading or assisting in writing sections for the EIS.

Can you please add staff to the attached table that you can commit in the coming year to help with the EIS development? I think this may be similar to our team leaders for the Resource Assessment teams that have been established, but didn't want to make that assumption. After you add names in Column C, please return to me and I will compile. If we get more than one name, I'll coordinate with division Point of Contacts to finalize who will lead and who will support. We can leave blanks if needed, and yes...the list will evolve over time in both content and contacts.

We'll be organizing a call for the Resource Assessment Team Leaders for Thursday afternoon to provide further clarification and answer questions.

Call with any questions 907.786.3532

Thank you!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Sweet, Serena [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]

**Sent:** Tuesday, January 30, 2018 4:09 PM

**To:** Wendy Loya

**Cc:** Miriam (Nicole) Hayes; Marlo Draper

**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads



Hi Wendy,

As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my leadership has asked that we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have a expert for, feel free to leave it blank.

Thank you and please let me know if you have any questions.

Serena Sweet

BLM-Alaska, Resources Division

Supervisory Planning

&

Environmental Coordinator

Desk: 907-271-4543

Cell: 907-223-3267

<BLM requested Coastal Plain 1002 ID Team\_FWS\_013118.\_migratory bird recommendation\_ejt.xlsx>

--

John Trawicki  
Water Resources Branch Chief  
National Wildlife Refuge System, Alaska  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503

0000007008

Work: (907) 786-3474  
Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken place"  
George Bernard Shaw

**From:** [Hayes, Miriam \(Nicole\)](#)  
**To:** [Wendy Loya](#); [John Pearce](#)  
**Subject:** Please review ASAP  
**Date:** Thursday, February 1, 2018 12:14:04 PM  
**Attachments:** [Coastal Plain 1002 ID Team\\_020118.xlsx](#)

---

Wendy and John,

We are going to go through and identify where there are clear gaps and will need to either hire or contract our a specialist to address the subject/resource (such as economist or acoustic environment). Please let me know if either of you have any additions/corrections at your earliest convenience. Our leadership will be briefing the ASLM on it at 1300 today but I will take any additions/corrections whenever you send...

Thanks!  
Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

**From:** [Wendy Loya](#)  
**To:** [Miriam \(Nicole\) Hayes](#); [John Pearce](#)  
**Subject:** RE: Please review ASAP 1002 Leads for EIS  
**Date:** Thursday, February 1, 2018 12:30:12 PM  
**Attachments:** [Coastal Plain 1002 ID Team\\_FWS\\_020118.xlsx](#)

---

Hi Nicole,

I have added a name to Wilderness Values and clarified that our in-house expertise for marine mammals is limited to Polar Bears, but will otherwise leave it as is. BLM or contractor collaboration in developing the Environmental Consequences evaluation for the alternatives will be important to our leads, so ensuring we have enough staffing to work collaboratively on those chapters is a priority.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]  
**Sent:** Thursday, February 01, 2018 10:14 AM  
**To:** Wendy Loya; John Pearce  
**Subject:** Please review ASAP

Wendy and John,  
We are going to go through and identify where there are clear gaps and will need to either hire or contract our a specialist to address the subject/resource (such as economist or acoustic environment). Please let me know if either of you have any additions/corrections at your earliest convenience. Our leadership will be briefing the ASLM on it at 1300 today but I will take any additions/corrections whenever you send...

Thanks!  
Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

**From:** [Hayes, Miriam \(Nicole\)](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Steve Berendzen](#); [Joanna Fox](#); [John Trawicki](#); [Drew Crane](#); [Eric Taylor](#); [Stephanie Brady](#); [John Martin](#); [Tracy Fischbach](#); [Marlo Draper](#); [Serena Sweet](#); [Nichelle \(Shelly\) Jones](#)  
**Subject:** Re: FWS contacts for weekly BLM-FWS 1002 meeting  
**Date:** Thursday, February 1, 2018 12:35:40 PM

---

Thank you, Wendy!

All - a doodle poll will be forthcoming to get a sense of what day/time generally works best for the majority. It is dated for next week but please keep in mind the time selected will be the re-occurring meeting time each week. I tried to provide options that generally looked available for the majority of the group (according to google calendar).

Please respond to this survey by COB tomorrow.

Thank you!  
Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

On Thu, Feb 1, 2018 at 10:11 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Nicole,

I have cc'ed the individuals at FWS that should be included in the weekly joint meeting between BLM planning and FWS Planning (Stephanie, John Martin, Tracy), the Refuge Manager (Steve) and Deputy (Joanna) and point of contacts with our divisions of Refuges (John T), Migratory Birds (Eric) and Ecological Services (Drew). As the agenda unfolds, we'll forward the invite to relevant individuals, although please let us know if you want the individuals we identified as leads for the EIS at the next meeting and I can help coordinate.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

0000007012

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]

**Sent:** Thursday, February 01, 2018 9:42 AM

**To:** Wendy Loya

**Subject:** Weekly check-in

Hi Wendy,

For the weekly check-in between our agencies - who from FWS should be included?

Thank you,

Nicole

**Nicole Hayes**

Project Coordinator

Bureau of Land Management

[222 W. 7th Avenue #13](#)

[Anchorage, Alaska 99513](#)

Desk: (907) 271-4354

**From:** [Hayes, Miriam \(Nicole\)](#)  
**To:** [Pearce, John](#)  
**Cc:** [Wendy Loya](#)  
**Subject:** Re: Please review ASAP 1002 Leads for EIS  
**Date:** Thursday, February 1, 2018 1:33:54 PM

---

Great - thank you, John.  
Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

On Thu, Feb 1, 2018 at 11:19 AM, Pearce, John <[jpearce@usgs.gov](mailto:jpearce@usgs.gov)> wrote:

Hi Nicole,

The only change I could make would be to put my name down as POC for Hazardous Material Specialist since we do have researchers here that have responded to oil spill and investigated impacts (short-term, long-term, field assessments, lab testing, ecosystem response, mortality level, source populations, etc.).

Otherwise, I don't see any changes.

John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
[4210 University Drive](#)  
[Anchorage, Alaska 99508](#)  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

On Thu, Feb 1, 2018 at 10:30 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Nicole,

I have added a name to Wilderness Values and clarified that our in-house expertise for marine mammals is limited to Polar Bears, but will otherwise leave it as is. BLM or contractor collaboration in developing the Environmental Consequences evaluation for the alternatives will be important to our leads, so ensuring we have enough staffing to work collaboratively on those chapters is a priority.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]

**Sent:** Thursday, February 01, 2018 10:14 AM

**To:** Wendy Loya; John Pearce

**Subject:** Please review ASAP

Wendy and John,

We are going to go through and identify where there are clear gaps and will need to either hire or contract our a specialist to address the subject/resource (such as economist or acoustic environment). Please let me know if either of you have any additions/corrections at your earliest convenience. Our leadership will be briefing the ASLM on it at 1300 today but I will take any additions/corrections whenever you send...

Thanks!

Nicole

**Nicole Hayes**

Project Coordinator

Bureau of Land Management

[222 W. 7th Avenue #13](#)

[Anchorage, Alaska 99513](#)



Desk: (907) 271-4354

**From:** [Leonard, Paul](#)  
**To:** [Scott Guyer](#)  
**Cc:** [Wendy Loya](#)  
**Subject:** 1002 Climate and Snow Discussion  
**Date:** Thursday, February 1, 2018 1:34:39 PM

---

Hi Scott,

I was informed today that you might be the POC for BLM in regards to the FWS resource assessment snow/climate team.

I was wondering if I could set up a time to speak with you over the next couple of days? I've been drafting a report and would love to get your input before I send it out to the broader team for review. Specifically, I'd like to be able to touch on any relevant decisions that will need to be made in regards to exploration in the short-term.

I'd be more than happy to work with you on scheduling. If this week is too booked, could we speak early next week? Perhaps Monday AM?

Thanks for the consideration.

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

**From:** [Wendy Loya](#)  
**To:** [Lynne Santos](#)  
**Subject:** Request meeting with Greg regarding 1002 Coordination  
**Date:** Thursday, February 1, 2018 4:08:06 PM

---

Hi Lynne,

Can you find 30 min in Greg's schedule for him and I to meet regarding my new role as he point of contact for Arctic Refuge oil and gas program? I am part of the meeting scheduled for 10am Friday 2/2, so if 930am tomorrow were available, that would be perfect.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Wendy Loya](#)  
**To:** [Miriam \(Nicole\) Hayes](#)  
**Cc:** [John Trawicki](#)  
**Subject:** RE: FWS contacts for weekly BLM-FWS 1002 meeting  
**Date:** Thursday, February 1, 2018 4:12:05 PM

---

Hey Nicole,

I misunderstood the desires of our Refuges team when I told you the invitation list earlier today. Tracy and John should not be included in the permanent mailing list. If their participation is needed, then John Trawicki or Stephanie Brady will make sure to include them.

Sorry for the confusion,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

---

**From:** Wendy Loya [mailto:[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)]  
**Sent:** Thursday, February 01, 2018 10:12 AM  
**To:** Miriam (Nicole) Hayes  
**Cc:** Steve Berendzen; Joanna Fox; John Trawicki; Drew Crane; Eric Taylor; Stephanie Brady; John Martin; Tracy Fischbach  
**Subject:** FWS contacts for weekly BLM-FWS 1002 meeting

Hi Nicole,

I have cc'ed the individuals at FWS that should be included in the weekly joint meeting between BLM planning and FWS Planning (Stephanie, John Martin, Tracy), the Refuge Manager (Steve) and Deputy (Joanna) and point of contacts with our divisions of Refuges (John T), Migratory Birds (Eric) and Ecological Services (Drew). As the agenda unfolds, we'll forward the invite to relevant individuals, although please let us know if you want the individuals we identified as leads for the EIS at the next meeting and I can help coordinate.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]  
**Sent:** Thursday, February 01, 2018 9:42 AM  
**To:** Wendy Loya

**Subject:** Weekly check-in

Hi Wendy,

For the weekly check-in between our agencies - who from FWS should be included?

Thank you,

Nicole

**Nicole Hayes**

Project Coordinator

Bureau of Land Management

222 W. 7th Avenue #13

Anchorage, Alaska 99513

Desk: (907) 271-4354

**From:** [Taylor, Eric](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Steve Berendzen](#); [Joanna Fox](#); [Drew Crane](#); [John Trawicki](#); [Doug Damberg](#)  
**Subject:** Re: Refining Migratory Bird Lead Coastal Plain 1002 Leasing Plan - FWS Resource Leads  
**Date:** Thursday, February 1, 2018 10:21:19 PM

---

Hi Wendy -

Thank you for your note.

Unfortunately, MBM is unable to commit to leading the 1002 EIS process on migratory birds. I met with our Supervisory Biologists this afternoon to discuss our commitments for FY18 and determined we do not have personnel available to lead this effort. As indicated on the draft spread sheet I provided to you, we've committed six biologists (Julian Fischer, Michael Swaim, Rick Lanctot, Jim Johnson, Jordan Muir and myself) already to serve on the migratory bird committee to assist in providing data, analyses, and literature for the suite of avian species that occur on the Refuge. However, I cannot obligate an MBM biologist to lead this effort for the Arctic Refuge given our field schedules and responsibilities. I spoke with Steve this evening; we're going to circle back to discuss tomorrow after he returns from Barrow.

Eric

Eric J. Taylor  
Chief, Division of Migratory Bird Management  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road, MS 201  
Anchorage, Alaska 99503-6199  
907.786.3446 (office)  
907.903.7210 (cell)  
[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)

On Thu, Feb 1, 2018 at 9:59 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Eric,

After further discussion in Refuges, they are hoping that someone from Migratory Birds can be the point of contact for the BLM EIS compilation process. Chris Latty has a full plate as the only biologist on staff at this time. Can one of your people step up to lead, knowing that it will take a flock of avian biologists to bring together the information for an EIS?

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

0000007021

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Taylor, Eric [mailto:[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)]

**Sent:** Wednesday, January 31, 2018 10:24 AM

**To:** Wendy Loya

**Cc:** Socheata Lor; Steve Berendzen; Joanna Fox; Drew Crane; John Trawicki; Stephanie Brady; Sara Boario

**Subject:** Re: Deadline 3pm today! Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Good Morning Wendy -

Please find attached my recommendations for a FWS Migratory Bird Team Lead and appropriate personnel who could assist in the EIS. As I am recommending personnel from other Programs, it is necessary for others to concur on my suggestions. If I can address any questions, please let me know.

Regards,

Eric

Eric J. Taylor

Chief, Division of Migratory Bird Management

U.S. Fish and Wildlife Service

[1011 E. Tudor Road](#), MS 201

Anchorage, Alaska 99503-6199

907.786.3446 (office)

907.903.7210 (cell)

[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)

0000007022

On Wed, Jan 31, 2018 at 8:17 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Good morning,

**A request with a deadline for 3pm Today, Wednesday January 31<sup>st</sup>**

BLM Lead for Coastal Plain 1002 Leasing Plan lead Sarena Sweet has asked for initial list of leads for the topics they envision for the Exploration and Leasing EIS that they propose will be completed in about the next year, possibly 1.5 years to get to a lease sale in 2 years. That timeline is important as we think who will be able to help with identifying content and leading or assisting in writing sections for the EIS.

Can you please add staff to the attached table that you can commit in the coming year to help with the EIS development? I think this may be similar to our team leaders for the Resource Assessment teams that have been established, but didn't want to make that assumption. After you add names in Column C, please return to me and I will compile. If we get more than one name, I'll coordinate with division Point of Contacts to finalize who will lead and who will support. We can leave blanks if needed, and yes...the list will evolve over time in both content and contacts.

We'll be organizing a call for the Resource Assessment Team Leaders for Thursday afternoon to provide further clarification and answer questions.

Call with any questions 907.786.3532

Thank you!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)



Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Sweet, Serena [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]

**Sent:** Tuesday, January 30, 2018 4:09 PM

**To:** Wendy Loya

**Cc:** Miriam (Nicole) Hayes; Marlo Draper

**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Hi Wendy,

As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my leadership has asked that we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have an expert for, feel free to leave it blank.

Thank you and please let me know if you have any questions.

Serena Sweet

BLM-Alaska, Resources Division

Supervisory Planning

&

Environmental Coordinator

Desk: 907-271-4543

Cell: 907-223-3267

0000007024

**From:** [Socheata Lor](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Refining Migratory Bird Lead Coastal Plain 1002 Leasing Plan - FWS Resource Leads  
**Date:** Friday, February 2, 2018 8:23:24 AM

---

Thank you. I'll talk to Karen and Greg.

Sent from my iPhone

On Feb 2, 2018, at 3:55 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Doug was copied on this but FYI.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

Begin forwarded message:

**From:** "Taylor, Eric" <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>  
**Date:** February 1, 2018 at 20:21:15 AKST  
**To:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Cc:** Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>  
**Subject:** Re: Refining Migratory Bird Lead Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Hi Wendy -

Thank you for your note.

Unfortunately, MBM is unable to commit to leading the 1002 EIS process on migratory birds. I met with our Supervisory Biologists this afternoon to discuss our commitments for FY18 and determined we do not have personnel available to lead this effort. As indicated on the draft spread sheet I provided to you, we've committed six biologists (Julian Fischer, Michael Swaim, Rick Lanctot, Jim Johnson, Jordan Muir and myself) already to serve on the migratory bird committee to assist in providing data, analyses, and literature for the suite of avian species that occur on the Refuge. However, I cannot obligate an MBM biologist to lead this effort for the Arctic Refuge given our field schedules and responsibilities. I spoke with Steve this evening; we're going to circle back to discuss tomorrow after he returns from Barrow.

Eric

Eric J. Taylor  
Chief, Division of Migratory Bird Management  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road, MS 201  
Anchorage, Alaska 99503-6199  
907.786.3446 (office)  
907.903.7210 (cell)  
[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)

On Thu, Feb 1, 2018 at 9:59 AM, Wendy Loya  
<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Eric,

After further discussion in Refuges, they are hoping that someone from Migratory Birds can be the point of contact for the BLM EIS compilation process. Chris Latty has a full plate as the only biologist on staff at this time. Can one of your people step up to lead, knowing that it will take a flock of avian biologists to bring together the information for an EIS?

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Taylor, Eric [mailto:[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)]

**Sent:** Wednesday, January 31, 2018 10:24 AM

**To:** Wendy Loya

**Cc:** Socheata Lor; Steve Berendzen; Joanna Fox; Drew Crane; John Trawicki; Stephanie Brady; Sara Boario

**Subject:** Re: Deadline 3pm today! Coastal Plain 1002 Leasing Plan - FWS Resource Leads

0000007026

Good Morning Wendy -

Please find attached my recommendations for a FWS Migratory Bird Team Lead and appropriate personnel who could assist in the EIS. As I am recommending personnel from other Programs, it is necessary for others to concur on my suggestions. If I can address any questions, please let me know.

Regards,

Eric

Eric J. Taylor

Chief, Division of Migratory Bird Management

U.S. Fish and Wildlife Service

[1011 E. Tudor Road](#), MS 201

Anchorage, Alaska 99503-6199

907.786.3446 (office)

907.903.7210 (cell)

[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)

On Wed, Jan 31, 2018 at 8:17 AM, Wendy Loya  
<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Good morning,

**A request with a deadline for 3pm Today, Wednesday January 31<sup>st</sup>**

BLM Lead for Coastal Plain 1002 Leasing Plan lead Sarena Sweet has asked for initial list of leads for the topics they envision for the Exploration and Leasing EIS that they propose will be completed in about the next year, possibly 1.5 years to get to a lease sale in 2 years. That timeline is important as we think who will be able to help with identifying content and leading or assisting in writing sections for the EIS.

Can you please add staff to the attached table that you can commit in the coming year to help with the EIS development? I think this may be similar to our team leaders for the Resource Assessment teams that have been established, but didn't want to make that assumption. After you add names in Column C, please return to me and I will compile. If we get more than one name, I'll coordinate with division Point of Contacts to finalize who will lead and who will support. We can leave blanks if needed, and yes...the list will evolve over time in both content and contacts.

We'll be organizing a call for the Resource Assessment Team Leaders for Thursday afternoon to provide further clarification and answer questions.

Call with any questions 907.786.3532

Thank you!

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Sweet, Serena [mailto:[ssweet@blm.gov](mailto:ssweet@blm.gov)]  
**Sent:** Tuesday, January 30, 2018 4:09 PM  
**To:** Wendy Loya  
**Cc:** Miriam (Nicole) Hayes; Marlo Draper  
**Subject:** Coastal Plain 1002 Leasing Plan - FWS Resource Leads

Hi Wendy,

As we discussed during today's meeting, we need to start identifying the leads for each of the resource topics that will be analyzed in the Coastal Plain 1002 Leasing Plan EIS. Upon returning to the office tonight, my leadership has asked that we get a list from FWS by **COB tomorrow, Jan 31st.**

I have attached a table for you to fill in. You will notice that the BLM leads have not been listed yet as we will also be working to complete this list tomorrow. So please fill in the table as much as possible and if there is a resource that FWS do not have a expert for, feel free to leave it blank.

Thank you and please let me know if you have any questions.

Serena Sweet

BLM-Alaska, Resources Division

Supervisory Planning

&

Environmental Coordinator

Desk: 907-271-4543

Cell: 907-223-3267

**From:** [Lor, Socheata](#)  
**To:** [Wendy Loya](#)  
**Subject:** Fwd: polar bear info  
**Date:** Friday, February 2, 2018 9:46:03 AM  
**Attachments:** [Polar Bear Study Ideas for 1002 - 180104 v2 \(1\).docx](#)  
[Coastal Plain 1002 Area State of Knowledge - Polar Bears v3.0 \(1\).docx](#)

---

Hi Wendy,

So sorry it's so late.

**Soch**

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

----- Forwarded message -----

**From:** Colligan, Mary <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)>  
**Date:** Mon, Jan 29, 2018 at 8:45 PM  
**Subject:** Re: polar bear info  
**To:** "Lor, Socheata" <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
**Cc:** Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>

Sure - I have attached the document as we prepared it for Greg and Steve Wackowski. Then Patrick took it and put it in the template we suggested the species teams use so I have attached that document as well. I have not reviewed that version, but it essentially uses the information from the first document. I would still prefer that the version with the budget information not be distributed, but wanted to share that version with you.

Please let me or Patrick know if you have questions.

On Mon, Jan 29, 2018 at 5:16 PM, Lor, Socheata <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)> wrote:

Hi Mary,

Can Wendy see the PB document now or is it still close hold?

She's working with John Martin to pull together the resource assessments.

**Soch**

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*

0000007030

U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)  
[Office: 907.786.3420](#)  
[Cell: 907.891.6194](#)  
~~~~~

On Fri, Dec 29, 2017 at 12:10 PM, Colligan, Mary <[mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov)> wrote:  
I have attached the quick document we put together for polar bear information needs. PLEASE do not distribute this, but I thought it would be useful for you both to see it.

Thanks

--  
Mary Colligan  
Assistant Regional Director  
Fisheries and Ecological Services  
U.S. Fish and Wildlife Service, Alaska Region  
[1011 E. Tudor Road](#), MS-361  
Anchorage, AK 99503  
907-786-3505  
cell: 907-223-5945

--  
Mary Colligan  
Assistant Regional Director  
Fisheries and Ecological Services  
U.S. Fish and Wildlife Service, Alaska Region  
1011 E. Tudor Road, MS-361  
Anchorage, AK 99503  
907-786-3505  
cell: 907-223-5945



**From:** [Wendy Loya](#)  
**To:** [John Martin](#); [Paul Leonard](#)  
**Cc:** [Stephanie Brady](#)  
**Subject:** RE: Coastal Plain 1002 Area: Proposal for NSF-funded Long-term Research (LTR) for Biol, Phys, Social Disciplines  
**Date:** Friday, February 2, 2018 11:18:58 AM  
**Attachments:** [BLE LTER 2016 Proposal for Distribution \(1\).pdf](#)

---

John,

Thanks for this thoughtful approach to the need for science funding beyond FWS. This would be good to talk about further, perhaps starting with understanding current NSF investment in the Arctic, especially Arctic Refuge. I am in contact with Ken Dunton who is leading a new Coastal LTER that will include the coast, lagoons and nearshore offshore of the Refuge so attaching that FYI. There have been some other major vegetation, permafrost studies and models as well. I haven't had a chance to even read the USGS report yet 😊 but maybe you, Paul and I can find a time to meet next Friday to talk about the big picture science and how to inventory additional science. This also overlaps with the bibliography request that has been handed off to me, which I will circle back with you and others on later today.

More soon! TGIF  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Martin, John [mailto:[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)]  
**Sent:** Thursday, February 01, 2018 1:35 PM  
**To:** Wendy Loya  
**Cc:** Stephanie Brady  
**Subject:** Coastal Plain 1002 Area: Proposal for NSF-funded Long-term Research (LTR) for Biol, Phys, Social Disciplines

Submitted for your consideration

Under the US Tundra Biome-International Biological Program, studies were conducted to establish baseline analyses for northern latitude ecosystems globally. The US studies were conducted in three phases running from 1968 through 1980, including post-field studies analyses and synthesis.

The tundra biome program objectives were:

- (1) develop a predictive understanding of how the tundra system operates, particularly as exemplified by the wet coastal tundra of northern Alaska;
- (2) obtain the necessary data base from a variety of cold-dominated ecosystems represented in the US so that their behavior could be modeled and simulated and the results compared with similar studies underway in other circumpolar countries; and

**From:** [Hayes, Miriam \(Nicole\)](#)  
**To:** [Wendy Loya](#); [John Pearce](#)  
**Subject:** Discussion today  
**Date:** Friday, February 2, 2018 12:29:19 PM  
**Attachments:** [Coastal Plain 1002 ID Team\\_020118.xlsx](#)  
[EIS Milestones.docx](#)

---

Hi John and Wendy,

Attached are a couple of draft/deliberative documents that are not finalized or set in stone by any means. Figure it may be helpful for discussion purposes today but I would not distribute further. We do anticipate changes to both - and they may or may not be radical changes. More to come.

Nicole

**Nicole Hayes**

Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

**From:** [Hayes, Miriam \(Nicole\)](#)  
**To:** [Wendy Loya](#); [Stephanie Brady](#); [Serena Sweet](#); [John Trawicki](#); [Drew Crane](#)  
**Cc:** [Martin, John](#); [Nichelle \(Shelly\) Jones](#); [Marlo Draper](#); [Tracy Fischbach](#)  
**Subject:** Follow-up items from 1-30-18 FWS/BLM Meeting  
**Date:** Friday, February 2, 2018 12:51:41 PM  
**Attachments:** [January 30 2018 Meeting Notes \(FWS and BLM\).pdf](#)  
[EIS Milestones.pdf](#)

---

Hi All,  
It was nice to meet you in person this week!

I am attaching the meeting notes and DRAFT EIS Milestone schedule as promised, however, I cannot overemphasize that the milestones are DRAFT. There have been no firm decisions to date and we know once decisions are made that this schedule will change.

I will send out BLM's Email Address for this project once we get the green light to move forward.

This link will take you to the NPR-A/IAP Record of Decision if you're interested in looking at an example of the lease stipulations and Best Management Practices which are found in Appendix A: [https://eplanning.blm.gov/epl-front-office/projects/nepa/5251/42462/45213/NPR-A\\_FINAL\\_ROD\\_2-21-13.pdf](https://eplanning.blm.gov/epl-front-office/projects/nepa/5251/42462/45213/NPR-A_FINAL_ROD_2-21-13.pdf)

Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

**From:** Google Calendar on behalf of Miriam (Nicole) Hayes  
**To:** wendy\_loya@fws.gov; jpearce@usgs.gov  
**Subject:** Coastal Plain 1002 USGS-FWS-BLM Weekly Check-In  
**Attachments:** invite.ics

more details » **b5-CIP**

Coastal Plain 1002 USGS-FWS-BLM Weekly Check-In

When  
Weekly from 11am to 11:30am on Friday Alaska Time

Where  
**b5-CIP** Participant Passcode **b5-** (map <https://maps.google.com/maps?q=**b5-CIP**  
video call?>)

**b5-CIP**  
Calendar  
wendy\_loya@fws.gov  
Who  
• mihayes@blm.gov  
- organizer  
• wendy\_loya@fws.gov  
• jpearce@usgs.gov

Going? All events in this series:  
Yes <https://www.google.com/calendar/event?>

**b5-CIP**

Invitation from Google Calendar <https://www.google.com/calendar/>

You are receiving this email at the account wendy\_loya@fws.gov because you are subscribed for invitations on calendar wendy\_loya@fws.gov.

To stop receiving these emails, please log in to https://www.google.com/calendar/ and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. Learn More <https://support.google.com/calendar/answer/37135#forwarding> .

**From:** [Pearce, John](#)  
**To:** [Miriam \(Nicole\) Hayes](#); [Wendy Loya](#)  
**Subject:** Spring 2018 USGS polar bear field work plan  
**Date:** Friday, February 2, 2018 6:19:03 PM  
**Attachments:** [USGS Polar Bear 2018 Spring Workplan.docx](#)

---

Nicole and Wendy,

Attached is a short summary of the spring 2018 USGS polar bear field work in the southern Beaufort Sea I discussed with you this morning.

John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
4210 University Drive  
Anchorage, Alaska 99508  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

**From:** [Wendy Loya](#)  
**To:** [Drew Crane](#); [John Trawicki](#); [Joanna Fox](#); [Steve Berendzen](#); [Eric Taylor](#)  
**Subject:** FW: Spring 2018 USGS polar bear field work plan  
**Date:** Friday, February 2, 2018 6:28:52 PM  
**Attachments:** [USGS Polar Bear 2018 Spring Workplan.docx](#)

---

Forwarding to FWS POCs for sharing

**From:** Pearce, John [mailto:[jpearce@usgs.gov](mailto:jpearce@usgs.gov)]  
**Sent:** Friday, February 02, 2018 4:19 PM  
**To:** Miriam (Nicole) Hayes; Wendy Loya  
**Subject:** Spring 2018 USGS polar bear field work plan

Nicole and Wendy,

Attached is a short summary of the spring 2018 USGS polar bear field work in the southern Beaufort Sea I discussed with you this morning.

John

John M. Pearce, Ph.D.  
Supervisory Wildlife Biologist  
Manager, Wetland and Terrestrial Ecosystems Office  
U.S. Geological Survey, Alaska Science Center  
4210 University Drive  
Anchorage, Alaska 99508  
Tel. 907.786.7094  
Email: [jpearce@usgs.gov](mailto:jpearce@usgs.gov)  
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

**From:** [Burkart, Greta](#)  
**To:** [Leonard, Paul](#)  
**Cc:** [Wendy Loya](#); [John Trawicki](#)  
**Subject:** Re: 1002 Snow and Climate Assessment  
**Date:** Friday, February 2, 2018 7:16:31 PM

---

Hi Paul,

If you are still in the office, give me a call: 66. Otherwise we can talk on Monday. I think you are correct in that assessments of snow characteristics will be the primary information need since that information will have direct management implications. Measurements of end-of season snow water equivalent will also be important so that recharge potential of lakes can be assessed. Of course watershed delineation using adequate digital elevation models would be necessary to accomplish this, so it would also be great to have the LiDAR or the structure for motion that you mentioned.

I don't think late fall hydrologic regimes on the Kuparuk River basin should be considered as a high priority information need. The Canning River water crossing will likely be a much bigger issue. Delineation of overwintering habitat and reestablishment of a USFWS or USGS gage on the Canning might be one of the higher priorities. On Monday, we also hope to have a draft of the assessment for water resources. It would be great to have your input on this as well.

Thanks,

Greta

Greta Burkart, PhD  
Aquatic Ecologist  
US Fish and Wildlife Service  
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program  
101 12 th Ave Rm 236  
Fairbanks, AK 99701  
ph: (907) 456-0519  
fax: (907) 456-0428  
email: [greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)  
[www.facebook.com/arcticnationalwildliferefuge](https://www.facebook.com/arcticnationalwildliferefuge)

On Fri, Feb 2, 2018 at 2:44 PM, Leonard, Paul <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> wrote:

Hey Greta,

I just wanted to follow up with you regarding the climate portion of the 1002 assessment. I have mined through the CCP from 2015 and there is some good information there but want to make sure I capture any additional thoughts/concerns you have for this assessment.

Would you be available for a quick conversation either later this afternoon or Monday AM? I'm hoping to send out the first draft of the assessment on Monday after speaking with BLM and if we can't catch up by then perhaps we can capture more of your feedback in that document?

Thanks for the consideration.

Cheers,  
Paul

--

Paul Leonard, PhD  
Science Coordinator  
[Arctic LCC](#)  
[101 12th Ave. Room 216](#)  
[Fairbanks, AK 99701](#)  
[\(907\)](#) 456-0445



**From:** [Sarena Selbo](#)  
**To:** [Wendy Loya](#)  
**Subject:** Re: Notes from USGS, BLM, FWS Points of Contact for 1002 area meeting 2/2/18  
**Date:** Saturday, February 3, 2018 6:04:33 PM

---

Thank you for keeping me in the loop Wendy.

On Feb 2, 2018, at 1:04 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

FWS contacts, please share with your divisions as relevant.

John Pearce, USGS

Nicole Hayes, BLM

Wendy Loya, FWS

- BLM is still engaged in conversations about how the EIS will come together with HQ, including role of DC, other agencies, the State and contractors. They have been tasked with drafting a Notice of Intent, but feel there are still important details to get guidance from the Department on roles before moving ahead.
- USGS will be meeting with the NSB Planning department to advise them of planned activities in NPRA (which they used to do through the NPRA Subsistence Advisory Panel but that is no longer convening since the change in administration). They provide timing of expected flights, aircraft tail numbers and maps of where they will in order to help communities who is going where and when and to get feedback on avoiding subsistence conflicts.
- USGS is initiating new Polar Bear Studies involving ear tags for up to 30 female bears in order to understand habitat use better *if* the tagged bears den in the 1002 area in 2018-2019. This will be based out of Deadhorse. I asked if USGS could update the Refuge on these activities, so John Pearce will check with the USGS PI about outreach. Wendy will follow up.
- USGS is also updating the Polar Bear Den Habitat Map for the 1002 area, using updated photointerpretation and IFSAR. John Pearce will talk with the PI about whether the Arctic LCC Polar Bear Den Snowdrift model would be useful in this effort and noted that the model would benefit from updated surface mapping.
- Wendy shared that the FWS was pursuing infrared detection (FLIR) of polar bear dens in the 1002 area this winter.
- Wendy explained that the FWS is in the process of identifying science needs through Resource Assessment teams, especially near term information needed to support exploration and leasing, and working with staff to prioritize those needs. We will include USGS and BLM in the conversation about priorities and needs when we have the assessments compiled after Feb 16<sup>th</sup> (due date for submission). USGS reported there have been 2 science funding requests made directly from Arctic Refuge which the agency is considering. Wendy encouraged USGS to consider our regional approach through the Resource Assessments in future funding decisions.

These meetings will occur weekly on Friday's at this point, so please let me know if you and your staff have items you would like to see reported out. If you have questions about these items, please ask me and if I can't provide an answer, I'll work with John and Nicole to get you the information you need.

Thanks everyone, have a great weekend.  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Hiemstra, Christopher A ERDC-RDE-CRREL-NH CIV](#)  
**To:** [Leonard, Paul](#)  
**Cc:** [Hiemstra, Christopher A ERD](#); [Wendy Loya](#)  
**Subject:** RE: [Non-DoD Source] 1002 Climate & Snow Conversation  
**Date:** Monday, February 5, 2018 11:19:31 AM

---

Hello Paul,  
That plan sounds fine. I look forward to seeing and commenting on it.

Chris

-----Original Message-----

From: Leonard, Paul [[mailto:paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)]  
Sent: Friday, February 2, 2018 6:19 PM  
To: Hiemstra, Christopher A ERDC-RDE-CRREL-NH CIV <[Christopher.A.Hiemstra@erdc.dren.mil](mailto:Christopher.A.Hiemstra@erdc.dren.mil)>  
Cc: Hiemstra, Christopher A ERD <[Christopher.A.Hiemstra@usace.army.mil](mailto:Christopher.A.Hiemstra@usace.army.mil)>; Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
Subject: Re: [Non-DoD Source] 1002 Climate & Snow Conversation

Hey Chris,

No worries,

I have a bit of a crazy Monday AM so I'd like to make a different proposition to you:

I'll be sending around the first draft of a snow/climate science needs assessment for the 1002 area on Monday. I'd like to include you on that distribution and invite you to comment and/or make suggestions there if you have any. If needed, we can set up a time to talk after that. Sound ok?

Thanks,  
Paul

On Thu, Feb 1, 2018 at 5:45 AM, Hiemstra, Christopher A ERDC-RDE-CRREL-NH CIV <[Christopher.A.Hiemstra@erdc.dren.mil](mailto:Christopher.A.Hiemstra@erdc.dren.mil)> <<mailto:Christopher.A.Hiemstra@erdc.dren.mil>> wrote:

Hello Paul,

Unfortunately, I've been out of town for training in Vicksburg, MS and don't have much free time. Is there a time we could talk next week (5-9 February)? I'll be in the office all next week. The only commitments I have now are Monday and Thursday 10am -12pm.

Thank you,

Chris

-----Original Message-----

From: Leonard, Paul [[mailto:paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov) <[mailto:paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)> ]  
Sent: Tuesday, January 30, 2018 3:26 PM  
To: Hiemstra, Christopher A ERD <[Christopher.A.Hiemstra@usace.army.mil](mailto:Christopher.A.Hiemstra@usace.army.mil)>  
<<mailto:Christopher.A.Hiemstra@usace.army.mil>> >  
Cc: Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov) <[mailto:wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> >  
Subject: [Non-DoD Source] 1002 Climate & Snow Conversation

I am the science coordinator for the Arctic Landscape Conservation Cooperative

<BlockedBlockedhttp://arcticlcc.org/Blocked <BlockedBlockedhttp://arcticlcc.org/BlockedBlocked> > (LCC) and am leading a FWS effort to describe the state of knowledge regarding climate and snow information in the 1002 area of the Arctic National Wildlife Refuge. This effort is being applied within the context of oil & gas exploration and we are attempting to identify pertinent data and knowledge gaps as well as opportunities to fill those gaps.

The LCC regularly works with the CSC and Jeremy Littell mentioned you might be a good person to speak with regarding some of these issues.

I left a telephone message for you but thought I would provide additional context via email.

If there is any time in the next couple of days you could give me a call that would be great. My number is 907.456.0445

If not, is there a better time for you? Also, If you have any questions about this effort, I'd be happy to discuss them.

Thanks for your consideration.

Cheers,  
Paul

--

Paul Leonard, PhD

Science Coordinator  
Arctic LCC <BlockedBlockedhttp://arcticlcc.org/Blocked  
<BlockedBlockedhttp://arcticlcc.org/BlockedBlocked> >

101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

--

Paul Leonard, PhD

Science Coordinator  
Arctic LCC <BlockedBlockedhttp://arcticlcc.org/Blocked>  
101 12th Ave. Room 216  
Fairbanks, AK 99701  
(907) 456-0445

**From:** [Wendy Loya](#)  
**To:** [Joshua Bradley](#); [Paul Leonard](#)  
**Subject:** Fwd: NSSI Team Recognition - - Daily Catalog Downloads and Use  
**Date:** Monday, February 5, 2018 12:14:41 PM

---

FYI, just sharing no reply needed.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](#) (office)  
[907.227.2942](#) (mobile)

Begin forwarded message:

**From:** "Longan, Sara" <[slongan@blm.gov](mailto:slongan@blm.gov)>  
**Date:** February 2, 2018 at 11:19:02 AKST  
**To:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Subject:** Fwd: NSSI Team Recognition - - Daily Catalog Downloads and Use

Hi Wendy.

Consult w/ BLM

[REDACTED]

[REDACTED]

[REDACTED]

Hope you're well

----- Forwarded message -----

**From:** Longan, Sara <[slongan@blm.gov](mailto:slongan@blm.gov)>  
**Date:** Fri, Feb 2, 2018 at 11:14 AM  
**Subject:** NSSI Team Recognition - - Daily Catalog Downloads and Use  
**To:** Karen Mouritsen <[kmourits@blm.gov](mailto:kmourits@blm.gov)>, Ted Murphy <[t75murph@blm.gov](mailto:t75murph@blm.gov)>, Steven Cohn <[scohn@blm.gov](mailto:scohn@blm.gov)>, "Sweet, Serena" <[ssweet@blm.gov](mailto:ssweet@blm.gov)>, Miriam Hayes <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>, Marlo Draper <[mdraper@blm.gov](mailto:mdraper@blm.gov)>, "Nichelle (Shelly) Jones" <[njones@blm.gov](mailto:njones@blm.gov)>, Stacie McIntosh <[s05mcint@blm.gov](mailto:s05mcint@blm.gov)>, "Guyer, Scott" <[sguyer@blm.gov](mailto:sguyer@blm.gov)>, Lesli Ellis-Wouters <[lellis@blm.gov](mailto:lellis@blm.gov)>  
**Cc:** Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Jess Grunblatt <[jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)>, Lisa Gleason <[lgleason@blm.gov](mailto:lgleason@blm.gov)>

Consult w/ BLM

Sara

----- Forwarded message -----

From: **Jess Grunblatt** <[jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)>

Date: Fri, Feb 2, 2018 at 10:53 AM

Subject: Catalog Stats

To: "Longan, Sara" <[slongan@blm.gov](mailto:slongan@blm.gov)>

Sara,

Consult w/ BLM

Jess

--  
Jess Grunblatt  
Research Professional  
Alaska Center for Conservation Science (ACCS)  
University of Alaska Anchorage,  
Beatrice McDonald Hall - Rm 112  
[3211 Providence Dr. Anchorage, Alaska 99508](mailto:jgrunbla@alaska.edu)  
[jgrunbla@alaska.edu](mailto:jgrunbla@alaska.edu)

0000007045

Office: (907) 786 6353  
Cell: (907) 244 2435

--

Sara Longan, PhD  
Executive Director  
North Slope Science Initiative (NSSI)  
907-271-3431

--

Sara Longan, PhD  
Executive Director  
North Slope Science Initiative (NSSI)  
907-271-3431

**From:** [Martin, John](#)  
**To:** [Jorgenson, Janet](#)  
**Cc:** [Stephanie Brady](#); [John Trawicki](#); [Wendy Loya](#)  
**Subject:** Re:  
**Date:** Monday, February 5, 2018 1:21:44 PM  
**Attachments:** [O&G Res Eval & Proposal for Arctic NWR 1002 Area AlaskaState2013.pdf](#)

---

Janet

Per your request.

Still sorting out where to house pertinent literature for access and retrieval - now and permanently.

[Bottom of page 187 is the last page with any ink - pages beyond to 190 total are blank].

John

On Wed, Jan 31, 2018 at 3:55 PM, Jorgenson, Janet <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)> wrote:

Regarding your email on Jan. 9 with 5 attachments. The attachment of pdf of State of AK O & G resource evaluation for ANWR 2013 only includes the first 104 of a 185-page document, lacking the literature cited section for example. Could you resend it?

I just returned from long vacation, so am ready to work on this. Thanks.

--

Janet C. Jorgenson  
Botanist  
Arctic National Wildlife Refuge  
[101 12th Ave, Rm 236](#)  
[Fairbanks, Alaska 99701](#)

[907](#)-456-0216



**From:** [Martin, John](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Paul Leonard](#); [Stephanie Brady](#)  
**Subject:** Re: Coastal Plain 1002 Area: Proposal for NSF-funded Long-term Research (LTR) for Biol, Phys, Social Disciplines  
**Date:** Monday, February 5, 2018 1:55:22 PM

---

Can do.

On Fri, Feb 2, 2018 at 9:18 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

John,

Thanks for this thoughtful approach to the need for science funding beyond FWS. This would be good to talk about further, perhaps starting with understanding current NSF investment in the Arctic, especially Arctic Refuge. I am in contact with Ken Dunton who is leading a new Coastal LTER that will include the coast, lagoons and nearshore offshore of the Refuge so attaching that FYI. There have been some other major vegetation, permafrost studies and models as well. I haven't had a chance to even read the USGS report yet ☺ but maybe you, Paul and I can find a time to meet next Friday to talk about the big picture science and how to inventory additional science. This also overlaps with the bibliography request that has been handed off to me, which I will circle back with you and others on later today.

More soon! TGIF

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Martin, John [mailto:[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)]  
**Sent:** Thursday, February 01, 2018 1:35 PM  
**To:** Wendy Loya  
**Cc:** Stephanie Brady  
**Subject:** Coastal Plain 1002 Area: Proposal for NSF-funded Long-term Research (LTR) for Biol, Phys, Social Disciplines

Submitted for your consideration

Under the US Tundra Biome-International Biological Program, studies were conducted to establish baseline analyses for northern latitude ecosystems globally. The US studies were conducted in three phases running from 1968 through 1980, including post-field studies analyses and synthesis.

The tundra biome program objectives were:

- (1) develop a predictive understanding of how the tundra system operates, particularly as exemplified by the wet coastal tundra of northern Alaska;
- (2) obtain the necessary data base from a variety of cold-dominated ecosystems represented in the US so that their behavior could be modeled and simulated and the results compared with similar studies underway in other circumpolar countries; and
- (3) bring basic environmental knowledge to bear on problems of degradation, maintenance, and restoration of the temperature-sensitive and cold-dominated tundra and taiga ecosystems.

The initial studies focused on Barrow due to its accessibility, as this was the largest population hub on the North Slope. Subsequently, the opening of the oil fields in the Prudhoe Bay environs in the late 1960s and early 1970s spurred another round of rigorous academic investigations into the tundra ecosystems, this time focused on environmental effects of oil and gas exploration, development, production, transportation (at one time including rail, road, ship, and finally pipeline), and oil and gas field abandonment and restoration. Among a suite of studies, the National Science Foundation (NSF) sponsored and funded a grant entitled *Effects of Perturbations on the Cold-dominated Ecosystems in Alaska* (Brown and West 1970; among others).

There was some overlap with the purely academic tundra biome studies and hydrocarbon industry-driven studies during the 1970s. Multiple comparative ecological discussions on a wide range of disciplinary subjects are available in existing literature between Barrow and Prudhoe Bay (Remmert 1980; among others).

Given the known interest and potential for commercial and/or industrial development for the North Slope, particularly with increasing accessibility under changing climate (Clement et al. 2013), and the pending opening of the coastal plain 1002 area to oil and gas exploration and leasing under amendment to ANILCA, it may be prudent for the principle federal agencies involved (BLM, Service, and USGS), to facilitate the implementation new studies. These may not only address information needs of the coastal plain 1002 area but also comparisons with historic efforts in the Barrow and Prudhoe Bay environs as a baseline for impact evaluations and changing climate. Additionally, given advances in remote sensing and geospatial analyses that have occurred since these historical studies were conducted, reassessing older findings with newer technologies may prove beneficial not only for resource conservation but industry as well. Most importantly, this is particularly important given the distinct topographical, environmental, and physical

differences between the physical and biological settings of Barrow and Prudhoe Bay in contrast with that of the 1002 area, Arctic National Wildlife Refuge.

The research suggested here is far beyond published literature synthesis and impact evaluations conducted through the NEPA process. This research would be stand-alone, independent of ongoing agency investigations, yet provide complimentary data for agency management and industry decisions regarding biological

and

physical

resources

and

human dimensions in the landscape

over the lifespan of the project that may prove difficult for agency budget cycles and Administration changes to provide the necessary consistency.

The anticipated future constraints for staffing and budget for the federal agencies now engaged in the coastal plain 1002 area, strongly suggest approaching the NSF as a sponsor to ensure long-term and consistent funding and associated staffing.

Given the lifespan of the NPRA and Prudhoe Bay environs oil and gas fields thus far, and projected future (DOE recently approved the permit to operate the TAPS through 2032), a reasonable lifespan may easily exceed 75 years, the investment in such a scientifically rigorous investment will provide a durable information source upon which agency decisions may be based.

#### Literature Cited

Brown, J. 1975. Ecological investigations of the tundra biome in the Prudhoe Bay region, Alaska. Fairbanks, AK: Biological Papers of the University of Alaska Special Report Number 2.

Brown, J., and G.C. West. 1970. Tundra Biome research in Alaska: the structure and function of cold-dominated ecosystems. U.S. IBP-Tundra Biome Report 70-1.

Brown, J., N. Liston, D. Murphy, and J. Watts. 1983. U.S. Tundra Biome publication list, final report. Cold Regions Research and Engineering Laboratory (CRREL) Special Report 83-29. <http://oai.dtic.mil/oai/oai?verb=getRecord&metadataPrefix=html&identifier=ADA137441>

Clement, J.P., J.L. Bengtson, and B.P. Kelly. 2013. Managing for the future in a rapidly changing Arctic: a report to the President. Washington, D.C.; Interagency Working Group on Coordination of Domestic Energy Development and Permitting in Alaska. <http://www.interior.gov/news/upload/ArcticReport-03April2013PMsm.pdf>

Remmert, H. 1980. Arctic animal ecology. New York, NY: Spring-Verlag. [Arctic

Alaska: comparison between Prudhoe Bay and Point Barrow; Pp. 178-183].

From: Wendy Loya  
To: [ccc\\_snyder@fws.gov](mailto:ccc_snyder@fws.gov)  
Subject: FWS-BLM Weekly Check-in on Coastal Plain 1002  
Date: Monday, February 5, 2018 4:02:49 PM

Eric,  
This is the weekly BLM-FWS meeting to discuss planning coordination if you are available to attend, starting next week Feb 13th.  
We will try to get an agenda together the day before so folks can know their roles.

Hope you enjoyed the weekend sunshine,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

Begin forwarded message:

From: "Miriam (Nicole) Hayes" <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>  
To: "wendy\_loya@fws.gov" <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, "stephanie\_brady@fws.gov" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, "drew\_crane@fws.gov" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, "njones@blm.gov" <[njones@blm.gov](mailto:njones@blm.gov)>, "john\_trawicki@fws.gov" <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, "joanna\_fox@fws.gov" <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, "ssweet@blm.gov" <[ssweet@blm.gov](mailto:ssweet@blm.gov)>  
Subject: FWS-BLM Weekly Check-in on Coastal Plain 1002

You have been invited to the following event.

Title: FWS-BLM Weekly Check-in on Coastal Plain 1002  
Please send any agenda topics to me by noon each Tuesday. We can have our first weekly check-in next week!  
When: Weekly from 2pm to 3pm on Tuesday Alaska Time  
Where: <https://fws.gov> participant passcode: <https://fws.gov>  
Video call: <https://fws.gov>

Calendar: [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)

Who:  
\* [mnhayes@blm.gov](mailto:mnhayes@blm.gov) - organizer  
\* [stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)  
\* [drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)  
\* [njones@blm.gov](mailto:njones@blm.gov)  
\* [john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)  
\* [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)  
\* [ssweet@blm.gov](mailto:ssweet@blm.gov)  
\* [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)

Event details:

<https://fws.gov>

Invitation from Google Calendar: <https://www.google.com/calendar/>

You are receiving this email at the account [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov) because you are subscribed for invitations on calendar [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. Learn more at <https://support.google.com/calendar/answer/37135#forwarding>

**From:** [Wendy Loya](#)  
**To:** [Miller, Mark](#)  
**Subject:** Re: 21-22 March STAP meeting - invitation to offer Arctic Refuge 1002 update  
**Date:** Monday, February 5, 2018 6:30:36 PM

---

Sounds goo, she should lead as lead on EIS.  
Any news on State Director position? Or were you too busy watching temperatures in Glenallen? LOL :)

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Feb 5, 2018, at 16:28, Miller, Mark <[memiller@blm.gov](mailto:memiller@blm.gov)> wrote:

Hi Wendy -

I've asked Nicole Hayes to offer STAP a background presentation / update on 1002 process on morning of 21st. Perhaps it makes sense to have the two of you tag-team the presentation, offering BLM and FWS perspectives. Might you be willing to do that?

Thanks for considering...

Mark

---

**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

-- E. O. Wilson, *Consilience*

**From:** [Miller, Mark](#)  
**To:** [Wendy M. Loya, PhD](#); [Miriam \(Nicole\) Hayes](#)  
**Subject:** Re: 21-22 March STAP meeting - invitation to offer Arctic Refuge 1002 update  
**Date:** Monday, February 5, 2018 6:35:37 PM  
**Attachments:** [2018\\_0321-22\\_NSSI\\_STAP\\_Agenda\\_DRAFT\\_0205.docx](#)

---

Seems appropriate to loop both of you into this follow-up discussion.

Occurs to me now that this would be during a public meeting, which may change the calculus.

See attached very draft agenda.

---

**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

On Mon, Feb 5, 2018 at 4:28 PM, Miller, Mark <[memiller@blm.gov](mailto:memiller@blm.gov)> wrote:

Hi Wendy -

I've asked Nicole Hayes to offer STAP a background presentation / update on 1002 process on morning of 21st. Perhaps it makes sense to have the two of you tag-team the presentation, offering BLM and FWS perspectives. Might you be willing to do that?

Thanks for considering...

Mark

---

**Mark E. Miller, PhD | Deputy Director**  
**North Slope Science Initiative | <http://www.NorthSlopeScience.org>**  
Email: [memiller@blm.gov](mailto:memiller@blm.gov) | Office: 907-271-3212 | Mobile: 907-231-9427  
c/o Bureau of Land Management | Alaska State Office | State Director's Office  
222 West 7th Avenue, #13 | Anchorage, AK 99513

---

"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."  
-- E. O. Wilson, *Consilience*

**From:** [Fox, Joanna](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Steve Berendzen](#)  
**Subject:** Re: FW: 1-19-18 Arctic Leasing Workshop Notes and Sign-In Sheets  
**Date:** Tuesday, February 6, 2018 11:26:50 AM

---

Hi Wendy,

Will you please have the following Arctic Refuge staff added to the distribution list:

- Steve Berendzen
- Joanna Fox
- Stephen Arthur
- Christopher Latty
- Janet Jorgenson
- Greta Burkart
- Roger Kay
- Jennifer Reed
- Hollis Twitchell

Thank you!

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
101 12th Avenue, Room 236  
Fairbanks, AK 99701  
(907) 456-0549

Follow us on Facebook!  
[www.facebook.com/arcticnationalwildliferefuge](http://www.facebook.com/arcticnationalwildliferefuge)

*“Do what you can, with what you have, where you are.” -- Theodore Roosevelt*

On Thu, Feb 1, 2018 at 9:21 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Joanna, Paul and Sarah,

It looks like FWS folks that called in to the BLM meeting on 1/19/18 are not included in the sign in and note sharing. If you and your colleagues would like to be included in future correspondence directly, would you send names and contact info in an email to me and I will compile and forward to Nicole at BLM? Please share as needed.

Thank you,



Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]

**Sent:** Thursday, February 01, 2018 9:16 AM

**To:** Serena Sweet

**Cc:** Aimee Devaris; Ameer Howard; Bradley Shults; Brumbaugh, Robert; Burns, Melissa; Casey Burns; Catherine Hillis; Christian Zimmerman; Christopher Putnam; Dave Mushovic; Debora Nigro; Diane Granfors; Donna Wixon; Doug Damberg; Douglass Cooper; Drew Crane; Elizabeth Labunski; Eric Taylor; Fritz, Stacey; Greg Siekaniec; Jessie Chmielowski; John Trawicki; Jordan Muir; Karen Clark; Karen Mouritsen; Kimberly Klein; Kyle James; Laura McDuffie; Lesli Ellis-Wouters; Margaret Perdue; Mark Miller; Marlo Draper; Martin, John; Mary Colligan; Pearce, John; Richard Lanctot; Robert Kaler; Ronnie Sanchez; Ryan Noel; Sara Boario; Sara Longan; Sarah LaMarr; Shelly Jacobson; Socheata Lor; Stephanie Brady; Stephen Wackowski; Steven Cohn; Tamara Zeller; Ted Murphy; Tracy Fischbach; Wayne Svejnoha; Wendy Loya; Zachary Lyons; William Dove; David Houseknecht

**Subject:** 1-19-18 Arctic Leasing Workshop Notes and Sign-In Sheets

All,

There were several people that requested a list of attendees at the workshop, so I have attached the sign-in sheets along with the workshop notes. I apologize for the multiple messages.

Nicole

**Nicole Hayes**

Project Coordinator

Bureau of Land Management

222 W. 7th Avenue #13

Anchorage, Alaska 99513

0000007056

Desk: (907) 271-4354

**From:** [Wendy Loya](#)  
**To:** [Miriam \(Nicole\) Hayes](#)  
**Subject:** Fwd: FWS contacts for weekly BLM-FWS 1002 meeting  
**Date:** Tuesday, February 6, 2018 12:35:54 PM

---

Hi Nicole,

Can you please add Steve Berendzen to the BLM-FWS weekly Planning meeting invite? He was on my list but got overlooked.

Our list:

Steve Berendzen  
Joanna Fox  
John Trawicki  
Drew Crane  
Eric Taylor  
Stephanie Brady  
Wendy Loya

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

Begin forwarded message:

**From:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Date:** February 1, 2018 at 10:11:46 AKST  
**To:** "Miriam (Nicole) Hayes" <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>  
**Cc:** Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Eric Taylor <[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, John Martin <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>  
**Subject:** FWS contacts for weekly BLM-FWS 1002 meeting

Hi Nicole,

I have cc'ed the individuals at FWS that should be included in the weekly joint meeting between BLM planning and FWS Planning (Stephanie, John Martin, Tracy), the Refuge Manager (Steve) and Deputy (Joanna) and point of contacts with our divisions of Refuges (John T), Migratory Birds (Eric) and Ecological Services (Drew). As the agenda unfolds, we'll forward the invite to relevant individuals, although please let us know if

you want the individuals we identified as leads for the EIS at the next meeting and I can help coordinate.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]  
**Sent:** Thursday, February 01, 2018 9:42 AM  
**To:** Wendy Loya  
**Subject:** Weekly check-in

Hi Wendy,  
For the weekly check-in between our agencies - who from FWS should be included?  
Thank you,  
Nicole

**Nicole Hayes**  
Project Coordinator  
Bureau of Land Management  
222 W. 7th Avenue #13  
Anchorage, Alaska 99513  
Desk: (907) 271-4354

**From:** [Wendy Loya](#)  
**To:** [Fox, Joanna](#)  
**Cc:** [Steve Berendzen](#)  
**Subject:** Re: Invitation: FWS-BLM Weekly Check-in on Coastal Plain 1002 @ Weekly from 2pm to 3pm on Tuesday (AKST) (joanna\_fox@fws.gov)  
**Date:** Tuesday, February 6, 2018 12:36:01 PM

---

Good morning,

This meeting is the BLM EIS Planning team meeting with FWS, like the one that Stephanie Brady organized last Wednesday. I did give them Steve's name for this group, but glad you caught that he was left off the invite.

Thanks!  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Feb 6, 2018, at 08:46, Fox, Joanna <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)> wrote:

Hi Wendy,

I'm not sure specifically which weekly meeting this one is (there are so many), but would you see that Steve is added to the invite list?

Thank you!

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
101 12th Avenue, Room 236  
Fairbanks, AK 99701  
(907) 456-0549

Follow us on Facebook!  
[www.facebook.com/arcticonationalwildliferefuge](https://www.facebook.com/arcticonationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*

----- Forwarded message -----

From: **Miriam (Nicole) Hayes** <[mnhayes@blm.gov](mailto:mnhayes@blm.gov)>  
Date: Mon, Feb 5, 2018 at 1:55 PM  
Subject: Invitation: FWS-BLM Weekly Check-in on Coastal Plain 1002 @ Weekly from 2pm to 3pm on Tuesday (AKST) ([joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov))

To: [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov), [john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov), [stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov),  
[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov), [njones@blm.gov](mailto:njones@blm.gov), [ssweet@blm.gov](mailto:ssweet@blm.gov),  
[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)

## FWS-BLM Weekly Check-in on Coastal Plain 1002

[more details »](#)

Please send any agenda topics to me by noon each Tuesday. We can have our first weekly check-in next week!

When Weekly from 2pm to 3pm on Tuesday Alaska Time

Where **b5-CIP** participant passcode **b5-CIP** ([map](#))

Video call **b5-CIP**

Calendar [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)

Who

- [mnhayes@blm.gov](mailto:mnhayes@blm.gov) - organizer
- [john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)
- [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)
- [stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)
- [drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)
- [njones@blm.gov](mailto:njones@blm.gov)
- [ssweet@blm.gov](mailto:ssweet@blm.gov)
- [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)

Going? All events in this series: [Yes](#) - [Maybe](#) - [No](#) [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov) because you are subscribed for invitations on calendar [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More](#).

<invite.ics>

**From:** [Conn, Sarah](#)  
**To:** [Loya, Wendy](#)  
**Subject:** Re: FW: 1-19-18 Arctic Leasing Workshop Notes and Sign-In Sheets  
**Date:** Tuesday, February 6, 2018 12:52:00 PM  
**Attachments:** [orgChart\\_FF07CAFB00.pdf](#)

---

Hi Wendy,  
Stop by on Thursday and we'll see if Louise is in (she's taking a bit of leave just now). Also I'm not sure if you know how our office is set up as we have others who also work on oil and gas stuff. Anyway, forgive me if this is not helpful.

We are a combined Fisheries and Ecological Services office. In general, Jimmy (the Deputy Project Leader) supervises the fish side of the house and I do the Ecological Services side although we are both involved in most things to different extents. On the Ecological Services side we have folks in three main program areas:

Angela Matz is our contaminants biologist, Neesha Stellrecht supervises the Endangered Species Recovery program (inc. Barrow Office), and Bob Henzsey supervises the Planning and Consultation branch, within which Louise sits. The PC Branch are the folks who do the section 7 consultations and review development projects (including oil and gas plans, projects etc.) and make recommendations of how a project proponent may avoid, minimize, or mitigate project impacts on fish and wildlife trust resources. We also have Ted Swem who is out Endangered Species coordinator and helps both the recovery branch and the section 7 folks and has a wealth of knowledge and experience working with oil and gas issues on the North Slope.

I've attached a terrible org chart in case a picture helps clarify this.

Cheers,

Sarah

On Mon, Feb 5, 2018 at 4:12 PM, Loya, Wendy <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Great, I will add you all to the list. Steve and Joanna also mentioned Louise Smith might be someone from your team that can help staff as we move towards the EIS process. I would like to meet her just to put a face with the name and make a personal connection, I am back through the office on Thursday if she is around.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.277.2942 (mobile)

On Mon, Feb 5, 2018 at 3:50 PM, Conn, Sarah <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)> wrote:

Hi Wendy,

If you could also please add my name and Ted Swem's to the list of contacts that would be great. We didn't attend the meeting but would appreciate being kept in the loop. As an FYI, Ted is our Office's Endangered Species Coordinator and will likely be heavily involved in any section 7 consultation work associated with the 1002 lands.

Thanks,

Sarah

On Thu, Feb 1, 2018 at 9:21 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Joanna, Paul and Sarah,

It looks like FWS folks that called in to the BLM meeting on 1/19/18 are not included in the sign in and note sharing. If you and your colleagues would like to be included in future correspondence directly, would you send names and contact info in an email to me and I will compile and forward to Nicole at BLM? Please share as needed.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]

**Sent:** Thursday, February 01, 2018 9:16 AM

**To:** Serena Sweet

**Cc:** Aimee Devaris; Aimee Howard; Bradley Shults; Brumbaugh, Robert; Burns, Melissa; Casey Burns; Catherine Hillis; Christian Zimmerman; Christopher Putnam; Dave Mushovic; Debora Nigro; Diane Granfors; Donna Wixon; Doug Damberg; Douglass Cooper; Drew Crane; Elizabeth Labunski; Eric Taylor; Fritz, Stacey; Greg Siekaniec; Jessie Chmielowski; John Trawicki; Jordan Muir; Karen Clark; Karen Mouritsen; Kimberly Klein; Kyle James; Laura McDuffie; Lesli Ellis-Wouters; Margaret Perdue; Mark Miller; Marlo Draper; Martin, John; Mary Colligan; Pearce, John; Richard Lanctot; Robert Kaler; Ronnie Sanchez; Ryan Noel; Sara Boario; Sara Longan; Sarah LaMarr; Shelly Jacobson; Socheata Lor; Stephanie Brady; Stephen Wackowski; Steven Cohn; Tamara Zeller; Ted Murphy; Tracy Fischbach; Wayne Svejnoha; Wendy Loya; Zachary Lyons; William Dove; David Houseknecht

**Subject:** 1-19-18 Arctic Leasing Workshop Notes and Sign-In Sheets



All,

There were several people that requested a list of attendees at the workshop, so I have attached the sign-in sheets along with the workshop notes. I apologize for the multiple messages.

Nicole

**Nicole Hayes**

Project Coordinator

Bureau of Land Management

[222 W. 7th Avenue #13](#)

[Anchorage, Alaska 99513](#)

Desk: (907) 271-4354

**From:** [Wendy Loya](#)  
**To:** [Conn, Sarah](#)  
**Cc:** [drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)  
**Subject:** FES Staff engaging in 1002 planning  
**Date:** Tuesday, February 6, 2018 1:10:17 PM

---

Thanks Sarah, this is helpful. I don't have a lot of time this trip, but hope to be at office by 130 Thursday so if you have 15 min to walk me around to do some introductions, that would be helpful for me and your staff, I hope. If not, I will plan ahead to be in Fairbanks in the next few weeks to meet and listen to ideas and concerns. Drew is the FES point of contact, so he should be routing communication to you and your team as it is relevant and sending feedback from your team across to me and up to Greg or HQ. Hopefully you have seen the invite for the seismic presentation BLM has scheduled.

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Feb 6, 2018, at 10:51, Conn, Sarah <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)> wrote:

Hi Wendy,  
Stop by on Thursday and we'll see if Louise is in (she's taking a bit of leave just now). Also I'm not sure if you know how our office is set up as we have others who also work on oil and gas stuff. Anyway, forgive me if this is not helpful.

We are a combined Fisheries and Ecological Services office. In general, Jimmy (the Deputy Project Leader) supervises the fish side of the house and I do the Ecological Services side although we are both involved in most things to different extents. On the Ecological Services side we have folks in three main program areas:

Angela Matz is our contaminants biologist, Neesha Stellrecht supervises the Endangered Species Recovery program (inc. Barrow Office), and Bob Henzsey supervises the Planning and Consultation branch, within which Louise sits. The PC Branch are the folks who do the section 7 consultations and review development projects (including oil and gas plans, projects etc.) and make recommendations of how a project proponent may avoid, minimize, or mitigate project impacts on fish and wildlife trust resources. We also have Ted Swem who is out Endangered Species coordinator and helps both the recovery branch and the section 7 folks and has a wealth of knowledge and experience working with oil and gas issues on the North Slope.

I've attached a terrible org chart in case a picture helps clarify this.

Cheers,

Sarah

On Mon, Feb 5, 2018 at 4:12 PM, Loya, Wendy <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Great, I will add you all to the list. Steve and Joanna also mentioned Louise Smith might be someone from your team that can help staff as we move towards the EIS process. I would like to meet her just to put a face with the name and make a personal connection, I am back through the office on Thursday if she is around.

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.277.2942 (mobile)

On Mon, Feb 5, 2018 at 3:50 PM, Conn, Sarah <[sarah\\_conn@fws.gov](mailto:sarah_conn@fws.gov)> wrote:

Hi Wendy,

If you could also please add my name and Ted Swem's to the list of contacts that would be great. We didn't attend the meeting but would appreciate being kept in the loop. As an FYI, Ted is our Office's Endangered Species Coordinator and will likely be heavily involved in any section 7 consultation work associated with the 1002 lands.

Thanks,

Sarah

On Thu, Feb 1, 2018 at 9:21 AM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Joanna, Paul and Sarah,

It looks like FWS folks that called in to the BLM meeting on 1/19/18 are not included in the sign in and note sharing. If you and your colleagues would like to be included in future correspondence directly, would you send names and contact info in an email to me and I will compile and forward to Nicole at BLM? Please share as needed.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

**From:** Hayes, Miriam (Nicole) [mailto:[mnhayes@blm.gov](mailto:mnhayes@blm.gov)]

**Sent:** Thursday, February 01, 2018 9:16 AM

**To:** Serena Sweet

**Cc:** Aimee Devaris; Ameer Howard; Bradley Shults; Brumbaugh, Robert; Burns, Melissa; Casey Burns; Catherine Hillis; Christian Zimmerman; Christopher Putnam; Dave Mushovic; Debora Nigro; Diane Granfors; Donna Wixon; Doug Damberg; Douglass Cooper; Drew Crane; Elizabeth Labunski; Eric Taylor; Fritz, Stacey; Greg Siekaniec; Jessie Chmielowski; John Trawicki; Jordan Muir; Karen Clark; Karen Mouritsen; Kimberly Klein; Kyle James; Laura McDuffie; Lesli Ellis-Wouters; Margaret Perdue; Mark Miller; Marlo Draper; Martin, John; Mary Colligan; Pearce, John; Richard Lanctot; Robert Kaler; Ronnie Sanchez; Ryan Noel; Sara Boario; Sara Longan; Sarah LaMarr; Shelly Jacobson; Socheata Lor; Stephanie Brady; Stephen Wackowski; Steven Cohn; Tamara Zeller; Ted Murphy; Tracy Fischbach; Wayne Svejnoha; Wendy Loya; Zachary Lyons; William Dove; David Houseknecht

**Subject:** 1-19-18 Arctic Leasing Workshop Notes and Sign-In Sheets

All,

There were several people that requested a list of attendees at the workshop, so I have attached the sign-in sheets along with the workshop notes. I apologize for the multiple messages.

Nicole

**Nicole Hayes**

Project Coordinator

Bureau of Land Management

[222 W. 7th Avenue #13](#)

[Anchorage, Alaska 99513](#)

Desk: (907) 271-4354



<orgChart\_FF07CAFB00.pdf>

**From:** [Martin, John](#)  
**To:** [Angela Matz](#); [Mark Miller](#); [Janet Jorgenson](#); [Randy Brown](#); [Christopher Latty](#); [Stephen Arthur](#); [Edward Decleva](#); [Tracy Fischbach](#); [Hollis Twitchell](#); [Roger Kaye](#)  
**Cc:** [Wendy Loya](#); [John Trawicki](#); [Stephanie Brady](#)  
**Subject:** Fwd: Notes from FWS Resource Assessment Team leads for 1002 area  
**Date:** Tuesday, February 6, 2018 1:47:03 PM

---

All (apologies for cross-posting)

As resource team leads, please be advised of the meeting notes from our 16 Feb meeting/phone conf.

Thanks

John

----- Forwarded message -----

**From:** **Trawicki, John** <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>  
**Date:** Tue, Feb 6, 2018 at 10:06 AM  
**Subject:** Fwd: Notes from FWS Resource Assessment Team leads for 1002 area  
**To:** Greta Burkart <[Greta\\_Burkart@fws.gov](mailto:Greta_Burkart@fws.gov)>, John W Martin <[John\\_W\\_Martin@fws.gov](mailto:John_W_Martin@fws.gov)>

John-

Please forward to technical team members.

thank you

----- Forwarded message -----

**From:** **Wendy Loya** <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>  
**Date:** Mon, Feb 5, 2018 at 4:56 PM  
**Subject:** Notes from FWS Resource Assessment Team leads for 1002 area  
**To:** Angela Matz <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Drew Crane <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>  
**Cc:** Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>

Hi Angela, Steve, Joanna, Drew and John,

Below are the talking points I shared last week with the lead authors of the FWS Resource Assessments due February 16<sup>th</sup> by phone. I had a chance to talk with Angela on the phone Friday; Joanna, Drew and John if you could make sure to share these notes with the staff in your divisions that were unable to make the call that would be great.

- Primary purpose: To identify what information we will need to ensure responsible

resource development, from exploration, to leasing to development in order to look *for support to do that work*.

- We are only describing the resources of the coastal plain to the extent that we need to justify why new information or analyses are needed.
- This will not be the only opportunity to identify research, but it is our first combined effort to communicate with leadership what we see as gaps. The audiences are both us (internal) and potentially administrators without scientific expertise.
- The timeline for moving forward with oil and gas on the Refuge is exploration, leasing and development, so we will work to match up the science with those timelines.
- Clearly, science needed to understand seismic activity impacts is the first thing we will face, so please think about whether that will have impacts on your resource area. That can include low-pressure ground vehicles, camps on snow or ice pads, water withdrawals for camp use; ice harvesting for ice roads/pads; disturbance of winter subsistence users and recreationalists; snow tracks persisting on the landscape where compaction occurs; browning or greening of the tundra in the years afterwards; vegetation, soil and thermokarst damage, etc.
- BLM has been tasked with getting to a lease sale within 2 years. For wildlife species in particular, Steve Arthur outlined some important science needs which generally address the questions of which species use what habitats when and how will industrial activities change that? We will need this information to help define the way the refuge is leased, primarily through which mitigation measures are presented in management alternatives.
- We are a mighty but small team and won't be able to do this alone. We may not have the experience needed to evaluate impacts, so we need to reach out to BLM and others to ask for help. We won't have the funding to do all this research, so we'll need to work with BLM, USGS and other partners to get what needs to be done, done. Please don't let your time or expertise limitations be a lens for your resource assessment. Collaborate, please.
- Reports will be compiled and edited to try to communicate the subjects in similar ways. We'll then work as a group to discuss the results and discuss different ways we should prioritize the studies, look for efficient ways to work together on research and evaluate if there are interdisciplinary studies we overlooked.
- 

Staff that are still confused or have questions can contact myself or Paul Leonard (in Fairbanks) and we can gladly help work with them to create a path forward.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

John Trawicki

Water Resources Branch Chief

National Wildlife Refuge System, Alaska

U.S. Fish and Wildlife Service

[1011 E. Tudor Road](#)

[Anchorage, AK 99503](#)

Work: (907) 786-3474

Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken place"

George Bernard Shaw



**From:** [John Hennessy](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Howard Earl](#)  
**Subject:** Re: USFWS  
**Date:** Tuesday, February 6, 2018 3:39:22 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)

---

Hi Wendy,

Thank you for the email, we will contact Nicole.

Also, I wanted to make sure you knew all the ways we might be able to help on a project like this:

- \* EIS assistance (GIS created figures, data analysis/data management)
- \* Leasing support (GIS and database)
- \* Support field data collection with tools/data management

We've been supporting government and industry clients in Alaska with these services for over 30 years. We have 185 staff and our headquarters are right here in Anchorage, where I'm located. When the timing is right, it'd be great to get together for a face-to-face chat to share ideas.

Thanks again,

**John Hennessy**

Resource Data, Inc. | [www.resourcedata.com](http://www.resourcedata.com) | [f](#) [in](#)

907-770-4108

[hennessy@resourcedata.com](mailto:hennessy@resourcedata.com)

560 E 34th Ave #100 Anchorage, Alaska 99503



---

**From:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>

**Date:** Friday, February 2, 2018 at 8:16 AM

**To:** John Hennessy <[hennessy@resourcedata.com](mailto:hennessy@resourcedata.com)>

**Subject:** RE: USFWS

This email comes from an external source, so remember, Think Before You Click!

Hi John,

I was forwarded your email through the chain. I am the regional (Alaska) point of contact for the USFWS Oil and Gas program for the Coastal Plain 1002 area of the Arctic National Wildlife Refuge.

BLM will be the lead agency for preparing the exploration and leasing EIS, while USFWS will manage, and therefore provide support in the EIS preparation, for the surface natural resources, according to information we have received to date. The BLM point of contact for this program in Alaska is Nicole Hayes [mnhayes@blm.gov](mailto:mnhayes@blm.gov), so I believe that is the connection that will provide the type of

0000007072

information you are looking for.

Best regards,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Wendy Loya](#)  
**To:** [Eric Taylor](#)  
**Subject:** FW: BLM Arctic Seismic Process - Follow-up to 1/19 Workshop Presentation

---

Hi Eric,

Please share with your staff involved in 1002 area work, including Resource Assessments and EIS Planning. If you can please cc me, that will help me track who has received the invitation. It looks like there is both a webinar option and a room at BLM reserved.

Thank you,

Wendy

-----Original Appointment-----

From: ssweet@blm.gov <mailto:ssweet@blm.gov> [mailto:ssweet@blm.gov <mailto:ssweet@blm.gov> ] On Behalf Of ssweet@blm.gov <mailto:ssweet@blm.gov>

Sent: Monday, February 05, 2018 11:43 AM

To: ssweet@blm.gov <mailto:ssweet@blm.gov>; wendy\_loya@fws.gov <mailto:wendy\_loya@fws.gov>; steve\_berendzen@fws.gov <mailto:steve\_berendzen@fws.gov>; Eric Taylor; tracy\_fischbach@fws.gov <mailto:tracy\_fischbach@fws.gov>; drew\_crane@fws.gov <mailto:drew\_crane@fws.gov>; paul\_leonard@fws.gov <mailto:paul\_leonard@fws.gov>; zlyons@blm.gov <mailto:zlyons@blm.gov>; john\_w\_martin@fws.gov <mailto:john\_w\_martin@fws.gov>; mdraper@blm.gov <mailto:mdraper@blm.gov>; john\_trawicki@fws.gov <mailto:john\_trawicki@fws.gov>; njones@blm.gov <mailto:njones@blm.gov>; mnhayes@blm.gov <mailto:mnhayes@blm.gov>; dwixon@blm.gov <mailto:dwixon@blm.gov>; wsvejnoh@blm.gov <mailto:wsvejnoh@blm.gov>; stephanie\_brady@fws.gov <mailto:stephanie\_brady@fws.gov>; joanna\_fox@fws.gov <mailto:joanna\_fox@fws.gov>; ctburns@blm.gov <mailto:ctburns@blm.gov>; rbrumbau@blm.gov <mailto:rbrumbau@blm.gov>

Subject: BLM Arctic Seismic Process - Follow-up to 1/19 Workshop Presentation

When: Friday, February 16, 2018 10:00 AM-12:00 PM (UTC-09:00) Alaska.

Where: Bridge **B5-CIP**, Passcode **B5-CIP**

[REDACTED]

For those of you attending in person at the Federal Building, the meeting will be held in the Kodiak Room on the 4th floor.

**From:** [Wendy Loya](#)  
**To:** [Trawicki, John](#)  
**Subject:** Re: Notes from FWS Resource Assessment Team leads for 1002 area  
**Date:** Tuesday, February 6, 2018 5:16:09 PM

---

Ed mentioned BLM not USGS, and it is on the list to discuss.

I can see from this email you asked John M to send Seismic invite to Resource Assessment team leads but he did not include everyone. Can you ask him to send it to those left off the list, without repeating to those he already invited?

Thank you,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Feb 6, 2018, at 14:19, Trawicki, John <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)> wrote:

Wendy-

See the highlighted text from John Martin regarding cultural resources and USGS. At your next BLM/USGS/FWS meeting could you consult w/USGS on this. USGS may have done cultural resource work in the past, but I do not know if they are staffed today to do this type of work.

Thank you

john t

----- Forwarded message -----

From: **Martin, John** <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
Date: Tue, Feb 6, 2018 at 11:52 AM  
Subject: Fwd: Notes from FWS Resource Assessment Team leads for 1002 area  
To: John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, Stephanie Brady  
<[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>

FYI - this is a bit awkward as there is no real function in this extra step.

Also, is there a need to route this to authors that have already submitted resource reports, if and when these individuals need to be recalled to rewrite or update narratives. [There are still gaps and Ed has asked about having USGS participate in cultural resources for the 1002 area as they](#)

generated some of the earliest rigorous summaries for the region.

This begs the matter of the stabilizing of the teams for longer term utility or is this in the hands of BLM at this point?

Thanks

----- Forwarded message -----

From: **Trawicki, John** <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>

Date: Tue, Feb 6, 2018 at 10:06 AM

Subject: Fwd: Notes from FWS Resource Assessment Team leads for 1002 area

To: Greta Burkart <[Greta\\_Burkart@fws.gov](mailto:Greta_Burkart@fws.gov)>, John W Martin

<[John\\_W\\_Martin@fws.gov](mailto:John_W_Martin@fws.gov)>

John-

Please forward to technical team members.

thank you

----- Forwarded message -----

From: **Wendy Loya** <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>

Date: Mon, Feb 5, 2018 at 4:56 PM

Subject: Notes from FWS Resource Assessment Team leads for 1002 area

To: Angela Matz <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Drew Crane

<[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, Joanna Fox

<[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>

Cc: Paul Leonard <[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)>

Hi Angela, Steve, Joanna, Drew and John,

Below are the talking points I shared last week with the lead authors of the FWS Resource Assessments due February 16<sup>th</sup> by phone. I had a chance to talk with Angela on the phone Friday; Joanna, Drew and John if you could make sure to share these notes with the staff in your divisions that were unable to make the call that would be great.

- Primary purpose: To identify what information we will need to ensure responsible resource development, from exploration, to leasing to development in order to look *for support to do that work*.
- We are only describing the resources of the coastal plain to the extent that we need to justify why new information or analyses are needed.

- This will not be the only opportunity to identify research, but it is our first combined effort to communicate with leadership what we see as gaps. The audiences are both us (internal) and potentially administrators without scientific expertise.
- The timeline for moving forward with oil and gas on the Refuge is exploration, leasing and development, so we will work to match up the science with those timelines.
- Clearly, science needed to understand seismic activity impacts is the first thing we will face, so please think about whether that will have impacts on your resource area. That can include low-pressure ground vehicles, camps on snow or ice pads, water withdrawals for camp use; ice harvesting for ice roads/pads; disturbance of winter subsistence users and recreationalists; snow tracks persisting on the landscape where compaction occurs; browning or greening of the tundra in the years afterwards; vegetation, soil and thermokarst damage, etc.
- BLM has been tasked with getting to a lease sale within 2 years. For wildlife species in particular, Steve Arthur outlined some important science needs which generally address the questions of which species use what habitats when and how will industrial activities change that? We will need this information to help define the way the refuge is leased, primarily through which mitigation measures are presented in management alternatives.
- We are a mighty but small team and won't be able to do this alone. We may not have the experience needed to evaluate impacts, so we need to reach out to BLM and others to ask for help. We won't have the funding to do all this research, so we'll need to work with BLM, USGS and other partners to get what needs to be done, done. Please don't let your time or expertise limitations be a lens for your resource assessment. Collaborate, please.
- Reports will be compiled and edited to try to communicate the subjects in similar ways. We'll then work as a group to discuss the results and discuss different ways we should prioritize the studies, look for efficient ways to work together on research and evaluate if there are interdisciplinary studies we overlooked.
- 

Staff that are still confused or have questions can contact myself or Paul Leonard (in Fairbanks) and we can gladly help work with them to create a path forward.

Thank you,

Wendy

Dr. Wendy M. Loya, Coordinator

Arctic Landscape Conservation Cooperative (LCC)

Anchorage, Alaska

907.786.3532 (office)

907.227.2942 (mobile)

--

John Trawicki  
Water Resources Branch Chief  
National Wildlife Refuge System, Alaska  
U.S. Fish and Wildlife Service  
[1011 E. Tudor Road](#)  
[Anchorage, AK 99503](#)  
Work: (907) 786-3474  
Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken place"

George Bernard Shaw

--

John Trawicki  
Water Resources Branch Chief  
National Wildlife Refuge System, Alaska  
U.S. Fish and Wildlife Service  
1011 E. Tudor Road  
Anchorage, AK 99503  
Work: (907) 786-3474  
Mobile: (907) 360-1656

"The single biggest problem with communication is the illusion that it has taken place"

George Bernard Shaw

**From:** [Martin, John](#)  
**To:** [Wendy Lova](#); [John Trawicki](#); [Angela Matz](#); [Mark Miller](#); [Janet Jorgenson](#); [Randy Brown](#); [Christopher Latty](#); [Stephen Arthur](#); [Patrick Lemons](#); [Tracy Fischbach](#); [Hollis Twitchell](#); [Roger Kaye](#)  
**Cc:** [Stephanie Brady](#); [Serena Sweet](#)  
**Subject:** Invitation: BLM Arctic Seismic Process - Follow-up to 19 Jan Workshop; Fri 16 Feb 2018 1000-1200, Anchorage  
**Date:** Wednesday, February 7, 2018 9:46:38 AM  
**Attachments:** [image.png](#)  
[Table - Discipline Subjects & Interagency Teams 6Feb2018pmUPDATED.docx](#)

---

All

This is a resend of the initial invitation as there was some confusion in the earlier invitation. All discipline subject leads are invited, or a representative from each team.

Thanks

John

Feb

16

Fri

BLM Arctic Seismic Process - Follow-u...

[View on Google Calendar](#)

When

Fri Feb 16, 2018 10am – 12pm (AKST)

Where

Bridge 65-CIP  
oin.php  
6183 P

Who

steve\_berendzen@fws.gov, tracy\_fischbach@fws.gov, mdraper@blm.gov, ctburns@blm.gov...

Yes

Maybe

No

Agenda

Fri Feb 16, 2018

No earlier events

10am BLM Arctic Seismic Process - Follow-u...

No later events

This event has been changed.

**BLM Arctic Seismic Process - Follow-up to 1/19 Workshop Presentation**  
**Changed:** For those of you attending in person at the Federal Building, the meeting will be held in the Kodiak Room on the 4th floor.  
[more details »](#)

When

Fri Feb 16, 2018 10am – 12pm Alaska Time

Where

Changed: 65-CIP



**From:** [Wendy Loya](#)  
**To:** [Paul Leonard](#)  
**Subject:** Fwd: Invitation: BLM Arctic Seismic Process - Follow-up to 19 Jan Workshop; Fri 16 Feb 2018 1000-1200, Anchorage  
**Date:** Wednesday, February 7, 2018 9:50:19 AM  
**Attachments:** [image.png](#)  
[Untitled attachment 07596.htm](#)  
[Untitled attachment 07599.docx](#)  
[Untitled attachment 07602.htm](#)

---

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

Begin forwarded message:

**From:** "Martin, John" <[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>  
**Date:** February 7, 2018 at 07:46:33 AKST  
**To:** Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, John Trawicki <[john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)>, Angela Matz <[angela\\_matz@fws.gov](mailto:angela_matz@fws.gov)>, Mark Miller <[memiller@blm.gov](mailto:memiller@blm.gov)>, Janet Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>, Randy Brown <[randy\\_j\\_brown@fws.gov](mailto:randy_j_brown@fws.gov)>, Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Patrick Lemons <[patrick\\_lemons@fws.gov](mailto:patrick_lemons@fws.gov)>, Tracy Fischbach <[tracy\\_fischbach@fws.gov](mailto:tracy_fischbach@fws.gov)>, Hollis Twitchell <[hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)>, Roger Kaye <[roger\\_kaye@fws.gov](mailto:roger_kaye@fws.gov)>  
**Cc:** Stephanie Brady <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, Serena Sweet <[ssweet@blm.gov](mailto:ssweet@blm.gov)>  
**Subject:** Invitation: BLM Arctic Seismic Process - Follow-up to 19 Jan Workshop; Fri 16 Feb 2018 1000-1200, Anchorage

All

This is a resend of the initial invitation as there was some confusion in the earlier invitation. All discipline subject leads are invited, or a representative from each team.

Thanks

John

**From:** [Fox, Joanna](#)  
**To:** [Wendy Loya](#)  
**Subject:** Fwd: Updated invitation: BLM Arctic Seismic Process - Follow-up to 1/19 Workshop P... @ Fri Feb 16, 2018 10am - 12pm (AKST) (joanna\_fox@fws.gov)  
**Date:** Wednesday, February 7, 2018 12:22:12 PM  
**Attachments:** [invite.ics](#)

---

Hi Wendy,

I am encouraging staff who will have roles in the EIS development to attend the workshop/webinar BLM is hosting on February 16. Neither Steve nor I are able to attend, but we were the only ones on our staff who were invited. In the event any changes are made to the time/date or other call-in details, will you please see that the staff I just invited are made aware of them?

Thank you!

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
101 12th Avenue, Room 236  
Fairbanks, AK 99701  
(907) 456-0549

Follow us on Facebook!  
[www.facebook.com/arcticnationalwildliferefuge](http://www.facebook.com/arcticnationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*

----- Forwarded message -----

From: **Fox, Joanna** <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>  
Date: Wed, Feb 7, 2018 at 10:18 AM  
Subject: Fwd: Updated invitation: BLM Arctic Seismic Process - Follow-up to 1/19 Workshop P... @ Fri Feb 16, 2018 10am - 12pm (AKST) ([joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov))  
To: Christopher Latty <[christopher\\_latty@fws.gov](mailto:christopher_latty@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>, Janet Jorgenson <[janet\\_jorgenson@fws.gov](mailto:janet_jorgenson@fws.gov)>, "Burkart, Greta" <[greta\\_burkart@fws.gov](mailto:greta_burkart@fws.gov)>, Hollis Twitchell <[hollis\\_twitchell@fws.gov](mailto:hollis_twitchell@fws.gov)>, Roger Kaye <[Roger\\_Kaye@fws.gov](mailto:Roger_Kaye@fws.gov)>, Jennifer Reed <[jennifer\\_reed@fws.gov](mailto:jennifer_reed@fws.gov)>, Roy Churchwell <[roy\\_churchwell@fws.gov](mailto:roy_churchwell@fws.gov)>  
Cc: Steve Berendzen <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>

BLM has scheduled a follow-up workshop/webinar to share additional information with us about seismic work and its impacts. Unfortunately, neither Steve nor I are able to attend. Since we will be addressing impacts and mitigation in the EIS, I'd strongly recommend you participate if available. I have scheduled the Refuges conference room; someone will just need to be responsible for getting the webinar up and running sometime between 9:30 and 10am.

Thanks!  
Joanna

---

Joanna L. Fox  
Deputy Refuge Manager  
Arctic National Wildlife Refuge  
101 12th Avenue, Room 236  
Fairbanks, AK 99701  
(907) 456-0549

Follow us on Facebook!

[www.facebook.com/arcticnationalwildliferefuge](http://www.facebook.com/arcticnationalwildliferefuge)

*"Do what you can, with what you have, where you are." -- Theodore Roosevelt*

----- Forwarded message -----

From: **Serena Sweet** <[ssweet@blm.gov](mailto:ssweet@blm.gov)>

Date: Mon, Feb 5, 2018 at 11:42 AM

Subject: Updated invitation: BLM Arctic Seismic Process - Follow-up to 1/19 Workshop P...  
@ Fri Feb 16, 2018 10am - 12pm (AKST) ([joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov))

To: [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov), [ctburns@blm.gov](mailto:ctburns@blm.gov), [wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov), [john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov),  
[rbrumbau@blm.gov](mailto:rbrumbau@blm.gov), [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov), [zlyons@blm.gov](mailto:zlyons@blm.gov), [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov),  
[paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov), [steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov), [stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov),  
[mdraper@blm.gov](mailto:mdraper@blm.gov), [drew\\_crane@fws.gov](mailto:drew_crane@fws.gov), [mnhayes@blm.gov](mailto:mnhayes@blm.gov), Eric Taylor  
<[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)>, [dwixon@blm.gov](mailto:dwixon@blm.gov), [njones@blm.gov](mailto:njones@blm.gov)

This event has been changed.

## BLM Arctic Seismic Process - Follow-up to 1/19 Workshop Presentation

[more details »](#)

**Changed:** For those of you attending in person at the Federal Building, the meeting will be held in the Kodiak Room on the 4th floor.

When Fri Feb 16, 2018 10am – 12pm Alaska Time

Where

**Changed:** 55-CIP

Calendar [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)

Who

- [ssweet@blm.gov](mailto:ssweet@blm.gov) - organizer
- [ctburns@blm.gov](mailto:ctburns@blm.gov)
- [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)
- [wsvejnoh@blm.gov](mailto:wsvejnoh@blm.gov)
- [john\\_trawicki@fws.gov](mailto:john_trawicki@fws.gov)
- [rbrumbau@blm.gov](mailto:rbrumbau@blm.gov)
- [john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)
- [zlyons@blm.gov](mailto:zlyons@blm.gov)
- [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)
- [paul\\_leonard@fws.gov](mailto:paul_leonard@fws.gov)
- [steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)

- [stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)
- [mdraper@blm.gov](mailto:mdraper@blm.gov)
- [drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)
- [mnhayes@blm.gov](mailto:mnhayes@blm.gov)
- Eric Taylor
- [dwixon@blm.gov](mailto:dwixon@blm.gov)
- [njones@blm.gov](mailto:njones@blm.gov)

Going? [Yes](#) - [Maybe](#) - [No](#) [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this email at the account [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov) because you are subscribed for updated invitations on calendar [joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov).

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. [Learn More](#).

**From:** [Damberg, Doug](#)  
**To:** [Wendy Loya](#)  
**Cc:** [Brady, Stephanie](#); [Socheata Lor](#); [Steve Berendzen](#); [Fox, Joanna](#); [John Trawicki](#)  
**Subject:** Kenai NWR oil/gas background information - re: Arctic 1002  
**Date:** Wednesday, February 7, 2018 2:54:01 PM  
**Attachments:** [Oil & Gas History.pdf](#)  
[Law.doc](#)  
[O&G\\_CD-1999.pdf](#)

---

Wendy:

As follow up to our 2-2-18 meeting with the RD, Andy Loranger sent me the following information about oil and gas activities on Kenai NWR. Although I have not read it all yet, it looks like it provides answers to many of the questions that came up at our meeting and will help in terms of thinking about consistency across refuges. Andy's cover note and the law.doc are both quick reads that provide some of the basic summary info.

Also, in addition to Andy, Doug Campbell is well-versed in much of the oil/gas work at Kenai and a good resource for information.

d

Doug Damberg  
Refuge Supervisor, AK North Zone  
U.S. Fish and Wildlife Service  
1011 E. Tudor Rd.; Anchorage, AK 99503  
Office: (907) 786-3329  
Cell: (907) 947-6302

----- Forwarded message -----

From: **Loranger, Andy** <[andy\\_loranger@fws.gov](mailto:andy_loranger@fws.gov)>  
Date: Sat, Feb 3, 2018 at 1:33 PM  
Subject: Re: is there a Kenai NWR oil/gas summary?  
To: "Damberg, Doug" <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>  
Cc: Stephen Miller <[stephen\\_a\\_miller@fws.gov](mailto:stephen_a_miller@fws.gov)>, Lynnda Kahn <[lynnda\\_kahn@fws.gov](mailto:lynnda_kahn@fws.gov)>

Doug, here are a few documents to get you started.

The history document gives info on legal basis and what activities take place. This document was finalized in 1999, and of course activities continue on the federal leases and some new exploration and development has occurred on the CIRC owned subsurface since then.

The CD for oil and gas was done for the those refuge non-Wilderness lands other than the federal leases and the lands under which CIRC owns the oil, gas and liquified coa (about 200k acres). Compatibility doesn't apply to oil and gas development, production in the federal leases (leases established before the compatibility standard became law) nor to where the subsurface is privately owned because we must allow access to them. Wilderness lands were withdrawn from leasing under ANILCA.

The CIRC ownership of subsurface is complicated and includes changes since the original conveyances under ANCSA (agreements, exchanges, etc.) If you need to get that pinned down, I'm pretty sure that it has been done by Realty.

A CD was done for gas storage because that activity was considered to be additional and unrelated to the oil and gas exploration and development authorized by the federal leases.

BLM is involved, they manage all down hole activities in the federal leases.

There are no consistency issues with the CCP as far as where oil and gas occurs conflicting with management categories/designations for refuge lands, if that is what you are getting at.

Lynnda Kahn can help get any information and answers to questions, just let us know.

On Fri, Feb 2, 2018 at 4:07 PM, Damberg, Doug <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)> wrote:

Do you have a brief summary on Kenai NWR oil and gas operations including:

- legal basis
- what activities take place
- what CDs exist (note - I have the recent Swanson River gas storage and will review that)
- does BLM have a role at Kenai?
- any consistency issues with your CCP?

We are trying to get an idea of what might apply for the Arctic NWR 1002. If you don't have a write up that's already done, let's talk soon and you can step me through things.

Thx,  
d

Doug Damberg  
Refuge Supervisor, AK North Zone  
U.S. Fish and Wildlife Service  
[1011 E. Tudor Rd.; Anchorage, AK 99503](#)  
[Office: \(907\) 786-3329](#)  
Cell: (907) 947-6302

--

Andy Loranger  
Refuge Manager  
Kenai National Wildlife Refuge  
907-260-2804

**From:** [Arthur, Stephen](#)  
**To:** [Martin, John](#); [Wendy Loya](#)  
**Subject:** Fwd: Bibliography  
**Date:** Wednesday, February 7, 2018 5:00:53 PM  
**Attachments:** [mime-attachment.html](#)  
[Untitled attachment 07515.htm](#)  
[InfoMemo-Bibliography of USGS Research Conducted in the ANWR 1002 Area and or the NPRA.20180119.pdf](#)  
[Untitled attachment 07518.htm](#)

---

John and Wendy, I understand we have been asked if the USGS 1002 update includes the work of FWS staff. The short answer is yes, it includes all the published work that we could find, pertaining to research conducted since 2002. The longer answer is that much of the work of the FWS has not been "published" and so was not included. This would include ongoing surveys (moose, muskoxen, Dall's sheep, vegetation, migratory birds, etc.) or annual progress reports of research studies in progress. These reports range from a "memo to file" to brief summaries in our Resource Advisory Committee reports, to databases of survey or research results. So the question is, what level of "publication" are we being asked to list? If we need to list all reports of any kind, that could be very large task, but our biology staff could probably put something together that would at least illustrate the major projects we have been involved with.

Let me know if you have any more guidance on this.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
101 12th Ave., Room 236  
Fairbanks, AK 99701  
(907)455-1830*

----- Forwarded message -----

**From:** Berendzen, Steve <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>  
**Date:** Tue, Jan 30, 2018 at 6:13 PM  
**Subject:** Fwd: Bibliography  
**To:** Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>

Steve,

My interpretation is that they wonder if all the scientific studies performed by Service staff and projects is included in the bibliography. I didn't check the bibliography, so I'm not sure about that, but I'd appreciate you checking to see if there is a significant amount of studies that have been overlooked. (Assuming that's what they're asking about)

Steve Berendzen  
Acting Manager, Arctic National Wildlife Refuge  
907-456-0253

----- Forwarded message -----

**From:** Lor, Socheata <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
**Date:** Tue, Jan 30, 2018 at 2:58 PM

Subject: Fwd: Bibliography

To: "Brady, Stephanie" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, John Martin  
<[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>, "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Wendy Loya  
<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, "Berendzen, Steve"  
<[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>

Hi,

The USGS OFR includes work of Service staff, but does it include everything done by Service staff?

Soch

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

----- Forwarded message -----

From: **Greg Siekaniec** <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
Date: Tue, Jan 30, 2018 at 2:19 PM  
Subject: Fwd: Bibliography  
To: [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov), [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)  
Cc: [karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)

Mary/Soch,

Do you know if this USGS information also represents the FWS science per Arctic NWR as well? If not, we need to figure out how we can complete a bibliography of science that is representative of our work as well.

Thanks,

Greg

Sent from my iPhone

Begin forwarded message:

**From:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Date:** January 30, 2018 at 1:16:15 PM AKST  
**To:** Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
**Subject:** Fwd: Bibliography

0000007087



Greg,

See below. Can you have someone pull this together. I know we had an extensive bibliography on the Arctic website but I don't think it has been kept up to date.

jim

Sent from my iPhone

Begin forwarded message:

**From:** "Dove, William" <[william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov)>  
**Date:** January 30, 2018 at 5:08:59 PM EST  
**To:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Cc:** Greg Sheehan <[Greg\\_J\\_Sheehan@fws.gov](mailto:Greg_J_Sheehan@fws.gov)>  
**Subject:** Bibliography

Jim,

I am trying to put together a bibliography on any science that we have produced on the NPR-A and the 1002 area.

We were hoping to get this information from FWS, Greg said that you might be able to help with this. I have attached the document that USGS for reference. Should you have any questions please let me know.

Best,

Billy

**Billy Dove** | *Special Assistant*  
Office of the Assistant Secretary  
Land and Minerals Management  
U.S. Department of the Interior

**From:** [Wendy Loya](#)  
**To:** [Bud Cribley](#)  
**Subject:** Re: Touching base  
**Date:** Wednesday, February 7, 2018 5:03:00 PM

---

Thank you :)

Ring my office at 907-796-3532, please.

Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
[907.786.3532](tel:907.786.3532) (office)  
[907.227.2942](tel:907.227.2942) (mobile)

On Feb 7, 2018, at 14:49, Bud Cribley <[bud\\_cribley@fws.gov](mailto:bud_cribley@fws.gov)> wrote:

Wendy,

Congratulations. Your new assignment is one of the best decisions I have seen out of Alaska in a while. I hear that you will be working with Nicole Hayes over at BLM. Another excellent choice. The two of you working together is very powerful.

I will be available on Friday at 2:00 pm DC time. Send me a number to call.

Bud

Sent from my iPhone

On Feb 7, 2018, at 6:33 PM, Wendy Loya <[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)> wrote:

Hi Bud,

I am sure you have heard that I will be the Regional point of contact for 1002 Oil and Gas information. Do you have time to touch base?

As a starter, would Friday at 2pm ET/10am AK work? If not, suggest a time (other than the hour before or after that) or next week...

Thank you, I hope all is well in DC,  
Wendy

Dr. Wendy M. Loya, Coordinator

0000007089

Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** [Wendy Loya](#)  
**To:** [Stephen Arthur](#); [John Martin](#)  
**Subject:** RE: Bibliography  
**Date:** Wednesday, February 7, 2018 5:38:46 PM  
**Attachments:** [USGS bibliography NPRA and 1002 Research 1 19 2018 FINAL.docx](#)

---

Hi Steve and John,

Steve, thank you so much for taking the time to share your perspective on the bibliography. I have pulled the original email and attachment to provide as much clarity as we have. The request is following up on a bibliography prepared by the USGS for DOI on their published research efforts in 1002 and NPRA, **which is attached**. It is not the USGS Report as I previously was told (and I had not looked at the attachments to clarify). Jim Kurth passed along the request from Billy DOVE that [R7 create a Bibliography if our work is not reflected in the USGS one attached](#).

In summary: we are looking for is a bibliography of FWS primary or co-authored publications for research in the Arctic (I would include 1002 and NPRA/broader Alaskan Arctic; as for example there may be a publications by Rick Lanctot that are not specific to 1002, but north slope wide). The audience is at DOI HQ. I recommend we restrict our bibliography to reports available through ARLIS, ScienceBase (Arctic LCC filed reports there) or the peer-reviewed literature; however if you believe there are Final Reports from significant studies that are not captured, let's discuss how we want to proceed. I do not believe we need to include "desktop" reports or interim project reports.

Please read this email carefully and let me know if the scope of work described above sounds consistent, I think we have a path forward. If not, let's discuss further.

Original Request:

**From:** "Dove, William" <[william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov)>  
**Date:** January 30, 2018 at 5:08:59 PM EST  
**To:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Cc:** Greg Sheehan <[Greg\\_J\\_Sheehan@fws.gov](mailto:Greg_J_Sheehan@fws.gov)>  
**Subject:** Bibliography

Jim,

I am trying to put together a bibliography on any science that we have produced on the NPR-A and the 1002 area.

We were hoping to get this information from FWS, Greg said that you might be able to help with this. I have attached the document that USGS for reference. Should you have any questions please let me know.

Best,

Billy

**Billy Dove** | *Special Assistant*  
Office of the Assistant Secretary  
Land and Minerals Management  
U.S. Department of the Interior

Thank you,  
Sincerely,  
Wendy

Dr. Wendy M. Loya, Coordinator  
Arctic Landscape Conservation Cooperative (LCC)  
Anchorage, Alaska  
907.786.3532 (office)  
907.227.2942 (mobile)

**From:** Arthur, Stephen [mailto:[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)]  
**Sent:** Wednesday, February 07, 2018 3:00 PM  
**To:** Martin, John; Wendy Loya  
**Subject:** Fwd: Bibliography

John and Wendy, I understand we have been asked if the USGS 1002 update includes the work of FWS staff. The short answer is yes, it includes all the published work that we could find, pertaining to research conducted since 2002. The longer answer is that much of the work of the FWS has not been "published" and so was not included. This would include ongoing surveys (moose, muskoxen, Dall's sheep, vegetation, migratory birds, etc.) or annual progress reports of research studies in progress. These reports range from a "memo to file" to brief summaries in our Resource Advisory Committee reports, to databases of survey or research results. So the question is, what level of "publication" are we being asked to list? If we need to list all reports of any kind, that could be very large task, but our biology staff could probably put something together that would at least illustrate the major projects we have been involved with.

Let me know if you have any more guidance on this.

Steve

Stephen M. Arthur, Ph.D.  
*Supervisory Wildlife Biologist  
Arctic National Wildlife Refuge  
101 12th Ave., Room 236  
Fairbanks, AK 99701  
(907)455-1830*

----- Forwarded message -----

**From:** Berendzen, Steve <[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>  
**Date:** Tue, Jan 30, 2018 at 6:13 PM  
**Subject:** Fwd: Bibliography  
**To:** Joanna Fox <[joanna\\_fox@fws.gov](mailto:joanna_fox@fws.gov)>, Stephen Arthur <[stephen\\_arthur@fws.gov](mailto:stephen_arthur@fws.gov)>

Steve,

My interpretation is that they wonder if all the scientific studies performed by Service staff and projects is included in the bibliography. I didn't check the bibliography, so I'm not sure about that, but I'd appreciate you checking to see if there is a significant amount of studies that have been overlooked. (Assuming that's what they're asking about)

Steve Berendzen  
Acting Manager, Arctic National Wildlife Refuge  
907-456-0253

----- Forwarded message -----

From: **Lor, Socheata** <[socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)>  
Date: Tue, Jan 30, 2018 at 2:58 PM  
Subject: Fwd: Bibliography  
To: "Brady, Stephanie" <[stephanie\\_brady@fws.gov](mailto:stephanie_brady@fws.gov)>, John Martin  
<[john\\_w\\_martin@fws.gov](mailto:john_w_martin@fws.gov)>, "Crane, Drew" <[drew\\_crane@fws.gov](mailto:drew_crane@fws.gov)>, Wendy Loya  
<[wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov)>, Doug Damberg <[doug\\_damberg@fws.gov](mailto:doug_damberg@fws.gov)>, "Berendzen, Steve"  
<[steve\\_berendzen@fws.gov](mailto:steve_berendzen@fws.gov)>

Hi,

The USGS OFR includes work of Service staff, but does it include everything done by Service staff?

Soch

~~~~~  
*Socheata Lor, Ph.D.*  
*Acting Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

----- Forwarded message -----

From: **Greg Siekaniec** <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
Date: Tue, Jan 30, 2018 at 2:19 PM  
Subject: Fwd: Bibliography  
To: [mary\\_colligan@fws.gov](mailto:mary_colligan@fws.gov), [socheata\\_lor@fws.gov](mailto:socheata_lor@fws.gov)  
Cc: [karen\\_clark@fws.gov](mailto:karen_clark@fws.gov)

Mary/Soch,

Do you know if this USGS information also represents the FWS science per Arctic NWR as well? If not, we need to figure out how we can complete a bibliography of science that is representative of our work as well.

Thanks,

Greg

Sent from my iPhone

0000007093

Begin forwarded message:

**From:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Date:** January 30, 2018 at 1:16:15 PM AKST  
**To:** Gregory Siekaniec <[greg\\_siekaniec@fws.gov](mailto:greg_siekaniec@fws.gov)>  
**Subject:** Fwd: Bibliography

Greg,

See below. Can you have someone pull this together. I know we had an extensive bibliography on the Arctic website but I don't think it has been kept up to date.

jim

Sent from my iPhone

Begin forwarded message:

**From:** "Dove, William" <[william\\_dove@ios.doi.gov](mailto:william_dove@ios.doi.gov)>  
**Date:** January 30, 2018 at 5:08:59 PM EST  
**To:** Jim Kurth <[jim\\_kurth@fws.gov](mailto:jim_kurth@fws.gov)>  
**Cc:** Greg Sheehan <[Greg\\_J\\_Sheehan@fws.gov](mailto:Greg_J_Sheehan@fws.gov)>  
**Subject:** Bibliography

Jim,

I am trying to put together a bibliography on any science that we have produced on the NPR-A and the 1002 area.

We were hoping to get this information from FWS, Greg said that you might be able to help with this. I have attached the document that USGS for reference. Should you have any questions please let me know.

Best,

Billy

**Billy Dove** | *Special Assistant*  
Office of the Assistant Secretary  
Land and Minerals Management  
U.S. Department of the Interior